

THE CALIFORNIA STATE UNIVERSITY AND COLLECTS

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GENERAL CATALOG 1972-73

CALIFORNIA STATE UNIVERSITY, FULLERTON FULLERTON, CALIFORNIA 92634 (714) 870-2011

(FORMERLY CALIFORNIA STATE COLLEGE, FULLERTON)

COMPLIMENTARY COPY

THIS CATALOG

Within this catalog may be found general academic and administrative information as well as specific descriptions of the departments, their majors and the courses offered in each. The first major part contains orienting information such as the calendar, materials on the California State University and Colleges, an overview of Cal State Fullerton and facts about student services and activities on the campus.

The subsequent sections of the catalog are concerned with: admission, registration, records and regulations; academic advisement; and university courses. The next sections, organized by schools and divisions, describe the departments and the programs of study and courses they offer. The final part of the catalog contains directories: a listing of individuals and groups participating in the governance of the university and with information on advisory councils, auxiliary organizations, and the faculty and administration. An index can be found at the end to help the reader locate specific items he needs or wishes to know about.

Because this catalog must be prepared well ahead of the academic year it covers, changes in some programs and rules occur. The class schedule (and subsequent errata sheets) are the final authority in regard to classes offered, instructors and revisions of regulations. This publication can be bought for a small fee from the Titan Bookstore.

Through the assistance of the Department of Art, Beverly Fotheringham has done the graphic work on this catalog and Susan Ragan has been the photographer. The final organizing and editing was done by Caroline Williams assisted by Wayne Untereiner and Len Klikunas in the Office of Academic Services and Planning and Catherine Lisej and Jerry Keating in the Office of Public Affairs.

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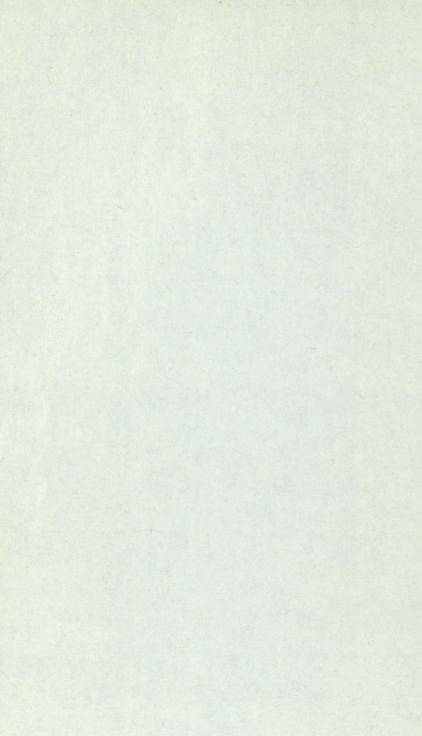
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CAL STATE FULLERTON CALENDAR FOR 1972–73

1972

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1973

Classes
Classes

___ Holidays

SUMMER SESSION 1972

00	
June 19, Monday	First summer session begins—registration and classes
July 4, Tuesday	Independence Day holiday—all offices closed. No instruction
July 28, Friday	First summer session ends
July 31, Monday	Second summer session begins—registration and classes
August 1, Tuesday	Filing period opens for application to the spring semester
September 4, Monday	Labor Day holiday; all offices closed; no instruction
September 8, Friday	Second summer session ends; effective date of graduation for those completing requirements

FALL SEMESTER 1972

November 1, 1971

Initial period for filing applications for admission to the fall semester 1972 began for all students and former students not in attendance during the spring semester 1972. All applications received by November 30, 1971, received equal consideration for inclusion in enrollment quotas. Applications continued to be accepted after November 30, 1971, for consideration in unfilled categories within the policies of the statewide common admissions program.

September 18, Monday	Academic year begins. See Schedule of Classes for details about advisement, orientation and registration
September 22, Friday	Last day to register without late registration fee. Application deadline for baccalaureate degree candidates for graduation, June 1973 and September 1973, and for January 1973 master's degree candidates to request a graduation check
September 25, Monday	
October 9, Monday	Columbus Day holiday—all offices closed. No instruction
October 23, Monday	Veterans Day holiday—all offices closed. No instruction
November 1, Wednesday	Filing period opens for application to the fall semester 1973
November 23–24, Thursday-Frid	dayThanksgiving recess—all offices closed
December 18, Monday	Winter recess begins
January 2, Tuesday	
January 17, Wednesday	Last day of classes
January 18-19, Thursday-Friday	Examination study days

January 22, MondaySemester examinations begin

January 26, FridaySemester examinations end; semester ends; effective date of graduation for those completing requirements

SPRING SEMESTER 1973

August 2, 1972

Initial period for filing applications for the spring semester 1973 begins for all new students and former students not in attendance during the fall semester 1972. All applications received by August 31, 1972, will have equal consideration for inclusion in enrollment quotas. Applications will continue to be accepted after August 31, 1972, for consideration in any unfilled category within the policies of the statewide common admissions program.

February 5, Monday	Semester begins. See Schedule of Classes for details about advisement, orientation and registration
February 8, Thursday	deadline for baccalaureate degree candidates for graduation January 1974, and for June 1973 and September 1973 mas-
February 12, Monday	Instruction begins
February 19–20, Monday-Tuesday	Academic holidays—all offices closed. No instruction (Observance of Washington's and Lincoln's birthdays)
April 16, Monday	Spring recess begins
April 23, Monday	Instruction resumes
May 28, Monday	Memorial Day holiday—all offices closed. No instruction
May 30, Wednesday	Last day of classes
May 31-June 1, Thursday-Friday	Examination study days
June 4, Monday	Semester examinations begin
June 8, Friday	Semester examinations end. Semester ends. Effective date of graduation for those completing requirements. Commencement
SUMMER SESSION 1973	
June 18, Monday	First summer session begins—registration and classes
July 4, Wednesday	Independence Day holiday—all offices closed
July 27, Friday	First summer session ends
July 30, Monday	Second summer session begins—registration and classes
September 3, Monday	Labor Day holiday; all-offices closed; no instruction
September 7, Friday	Second summer session ends; effective date of graduation for those completing requirements

November 1, 1972

The initial period for filing applications for admission to the fall semester 1973 is scheduled to begin for all students not in attendance during the spring semester 1973, within the policies of the statewide common admissions program.

THE CALIFORNIA STATE UNIVERSITY AND COLLEGES

On November 29, 1971, the Governor signed into law Assembly Bill 123 which created the California State University and Colleges, thereby redesignating the system previously known as the California State Colleges. This legislation provided legal recognition that the California State Colleges have achieved the status of universities in their first decade as a unified system of higher education.

First brought together as a system under an independent Board of Trustees by the Donahoe Higher Education Act in the early 1960s, the California State University and Colleges now consists of 19 campuses, covering the state from Humboldt in the north to San Diego in the south. Current enrollment exceeds 263,000 full- and part-time students, with a faculty of approximately 14,500.

Responsibility for the California State University and Colleges is vested in the Board of Trustees, whose members are appointed by the Governor. The Trustees appoint the Chancellor, who is the chief executive officer of the system, and the Presidents, who are the chief executive officers on the respective campuses.

The Trustees, the Chancellor and the Presidents develop systemwide policy, with actual implementation at the campus level taking place through broadly based consultative procedures. The Academic Senate of the California State University and Colleges, made up of elected representatives of the faculty from each campus, recommends academic policy to the Board of Trustees through the Chancellor.

Each campus in the system has its own unique geographic and curricular character, but all emphasize the liberal arts and sciences. Programs leading to the bachelor's and master's degrees are masterplanned to anticipate and accommodate student interest and the educational and professional needs of the State of California. A limited number of joint doctoral programs are also offered. Although there is increasing recognition of the importance of research to the maintenance of quality teaching, the primary responsibility of the faculty continues to be the instructional process.

While California State University, San Jose, the oldest, was founded over a century ago, prior to World War II only seven State Colleges were in existence, with a total enrollment of 13,000. Since 1947, 12 new campuses have been established, and sites have been selected for additional ones in Ventura, San Mateo and Contra Costa counties. California State College, Bakersfield, the newest, was opened to students in 1970. Enrollment in the system is expected to pass 300,000 by 1980.

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CAL STATE FULLERTON: AN OVERVIEW

GOVERNANCE

Governance on the campus level at California State University, Fullerton is the responsibility of the President and his administrative staff. Working closely with the President are a number of faculty and student groups which initiate, and review and recommend for approval university programs, policies and procedures. Although the President is vested with the final authority on all university activities, the traditions at Fullerton have been to encourage maximum faculty and staff participation in campus decision-making and governance. Increasingly, students are becoming involved and active, too, and some student representatives are found on most university, school, and departmental committees and policy-making bodies.

ADVISORY BOARD

The California State University, Fullerton Advisory Board consists of community leaders interested in the development and welfare of the university. The board serves the President in an advisory capacity, particularly in matters which affect university and community relations. Members are nominated by the President and appointed by the Board of Trustees for terms of four years.

PHILOSOPHY AND OBJECTIVES

The main functions of an institution of higher learning are to disseminate and advance knowledge. The philosophy which guides an institution can limit or promote the successful achievement of these objectives. Therefore, from its inception, Cal State Fullerton has directed its educational program toward the fullest possible development of the individuals who participate in it. For both faculty and students this entails a commitment to high standards of scholarship, a comprehensive rather than a narrow approach to major areas of study, and a concern with research and other creative activity.

The university holds to the belief that an enduring educational experience must be founded upon exploration of our cultural heritage, through basic studies in the liberal arts and sciences, and that it can and should at the same time prepare for success in a chosen occupation or profession. Accordingly, the required general education program has as its objective the development in each student of:

- 1. The effective use and interpretation of the written and spoken language.
- An understanding of the wide range of human endeavor and accomplishments in liberal arts and sciences, their interrelationships, and the various choices and values they represent.
- An understanding of information and principles in some areas of the liberal arts and sciences in sufficient depth to encourage critical and creative thought and expression.
- A spirit of inquiry into the past and into the future, in order to cope with conditions in the continually changing world.
- 5. An understanding of the rights, privileges and responsibilities of citizenship in the community and nation, and of effective participation in today's world.

In addition, the university requires of all students who are candidates for a degree—whatever their special purpose—the pursuit of a subject major.

(For specific details, see page 67.)

RETROSPECT AND PROSPECT

Cal State Fullerton was the 12th State College in California to be authorized by the Legislature. The following year, 1958, resulted in the designation of a site in northeast Fullerton, and 1959 saw the purchase of the site, the appointment of Dr. William B. Langsdorf as the founding president, the selection of the first staff, and the planning for the opening of the new college in the fall. Orange County State College started classes for 452 full-time and part-time students in September, 1959, using leased quarters for its administrative offices on the Fullerton Union High School campus and for its classrooms at Fullerton's Sunny Hills High School. In the fall of 1960, the college opened classes on its own campus where it occupied 12 temporary buildings. The name changed to Orange

State College in July, 1962, to California State College at Fullerton in July, 1964, to California State College, Fullerton in July, 1968 and to California State University, Fullerton in June, 1972. The first permanent building, the six-story Letters and Science Building, was occupied in 1963.

Today, there are many dramatic evidences of additional, very rapid growth. Nine large and modern permanent buildings have been completed, and enrollment has climbed to approximately 17,000. Since 1963 the curriculum has expanded to include lower division work and many graduate programs. More than \$50 million already has been invested in land, buildings and equipment—a sum expected to increase appreciably by the 1980's when the university is due to reach its projected peak enrollment of nearly 27,000.

During this rapid growth, the university also has achieved a growing reputation for academic excellence. Cal State Fullerton began this spectacular development at a period when the citizens and government of California were revising and greatly expanding their commitments to quality public higher education. The Donahoe Higher Education Act of 1960 established the California State Colleges as a system under an independent Board of Trustees, redefined the functions of the State Colleges, and related them to both the community colleges and to the University of California system. In this atmosphere of public support, Cal State Fullerton was the first of the State Colleges to submit and secure approval for a five-year master curricular plan and one of the first three to secure approval of a master building plan and one that was able to think in terms of its ultimate enrollment objectives from the beginning. During the same period, Orange County was experiencing its own unprecedented growth.

In 1969–70, it became apparent that colleges and universities statewide and nationally were entering a new period of development. Growing financial problems on all levels of government, mounting criticisms of contemporary educational policies and practices, and a loss of much public support for education were symptomatic of much deeper and more widespread problems and changes in our society and its schools. In the context of what increasingly seemed to be the emergence of a new, and in many ways, different type of culture and world, the colleges and universities (like other major institutions) were acutely experiencing the confusions and conflicts such basic and rapid cultural transformations generate.

Like other colleges and universities, Cal State Fullerton currently is reexamining and reevaluating even its most basic educational goals and assumptions and practices. It is not yet clear how higher education can more effectively assume its central responsibilities of teaching, developing knowledge, and providing public service in the future that lies ahead. It is clear, however, that higher education must become more aware of, more articulate about, and more scholarly regarding the learning experiences that occur on and outside campuses. It is clear, too, that vigorous and imaginative and pluralistic educational experimentation needs to be rapidly and greatly increased and that students as well as members of the larger community have vital and increasing roles to play in these processes. There are developing, too, deepening and widening convictions that: educators may have underestimated the potentialities and learning capacities of people; and that new teaching strategies and curriculum materials could result in higher, and an increasingly widespread attainment of, educational standards.

On May 26, 1971, Dr. L. Donald Shields, who had served as acting president for seven months, was appointed the second president of Cal State Fullerton. Under his presidency five task forces subsequently were established to plan for the formation of a school of applied and professional studies; to explore opportunities for external degree, extension and continuing education programs; to study form and function for a learning resources center; to develop a long-range plan for the establishment of university priorities and the allocation of available resources; and to analyze the university's academic and administrative organization in terms of its structure and processes. President Shields also has vigorously pursued creating more effective working relationships with the community.

Cal State Fullerton is looking forward to increasing the contribution it may make in the work ahead. This institution already is rethinking and improving the quality of its part in higher education so that people will have more freedom to shape and create the sort of future they value and that is possible with the resources and knowledge that man now has.

NATURAL AND CULTURAL ECOLOGY

Fullerton, a city of 88,000 inhabitants, is located in northern Orange County, about 30 miles southeast of central Los Angeles. It is in the center of the new Southern California population center and within easy freeway access of all the diverse natural and cultural attractions of this region.

Orange County, with an area of 782 square miles, is the 48th in size of California's 58 counties, but it is the second largest county in population (1.5 million), and in total personal income. Orange County has experienced during the last 20 years almost unprecedented growth of population, economic and other activities: it was the fastest growing area in the United States. This expansion came partly because of the proximity of Orange County to rapidly expanding Los Angeles; the increasing access through the developing freeway system; and natural attractiveness of the beaches, countryside and climate.

In 20 years what had been a predominantly, slowly-changing agricultural and resort area, was transformed into a dynamic and predominantly industrial growth center for new types of manufacturing and commercial and cultural enterprises. Much land in Orange County, however, still is available and comparatively untouched. Agriculture, and particularly orange groves and cattle ranching, still are highly visible activities. But space-age industries and industrial parks, new schools and shops and housing developments, tourist facilities and imaginative cultural attractions, and large scale planned communities continue to encroach upon the diminishing expanses of habitable land.

Today, there co-exists an interesting mixture of the old and new economic and life styles in Orange County. Underneath the soil, archeologists and bulldozers uncover traces of the hunting and gathering Indian bands which flourished as early as 4,000 years ago in what was a benign and bountiful region. More visible traces remain of the Spanish and Mexican periods and cultures: Mission San Juan Capistrano, which began the agricultural tradition in Orange County, and subsequent adobes from the great land grants and ranches that followed. Additionally, both customs and many names persist from this period, and so does some ranching. The architectural and other evidences of the subsequent pioneer period are still quite visible: farmsteads, old buildings from the new towns that then were established in the late 1800's, mining operations, and traces of early resort and other types of promotional activities. For about 100 years, farming was the main economic activity with products such as grapes, walnuts, vegetables, and increasingly oranges replacing the older wheat and cattle ranches. Today, agriculture still is very important, and Orange County ranks sixth among California's counties in mineral production with its oil, natural gas, sand and gravel, and clay mining and processing activities.

The extensive development of the 42 miles of beaches in Orange County and the development of such attractions as Disneyland, Knott's Berry Farm, the Laguna Festival of Arts and Pageant of Masters, and the Anaheim Stadium and Convention Center continue to make tourism an increasingly important activity. So does the Mediterranean-type climate with: rainfall averaging 14 inches per year; and generally mild days (with either freezing or 100-degree temperatures uncommon) with frequent morning fogs during the summer. Both downtown Los Angeles and the Pacific Ocean can be reached by car in half an hour, and mountain and desert recreation areas are as close as an hour's drive from the campus.

THE CAMPUS AND ITS BUILDINGS

Once part of a vast orange grove, the attractively landscaped campus now consists of 225 acres bounded on the south by Nutwood Avenue, on the west by State College Boulevard, on the north by Yorba Linda Boulevard and on the east by the Orange Freeway. The portion of Orange County immediately surrounding the campus is predominantly suburban: it includes housing tracts, apartment complexes, shopping centers, space-age industrial firms and still remaining orange groves and undeveloped hills and fields.

The campus itself has a high density urban layout of buildings and facilities developed to serve a predominantly commuting public. The university's modern buildings were planned so that no student should need more than 10 minutes to go from one class to another. The campus is surrounded with well-lighted and landscaped parking facilities. Shopping and sevices are available in College Park, a commercial establishment just adjacent to the campus on the south.

Even though most of the campus has been converted into modern buildings, facilities for athletic activities, parking lots, or attractively landscaped areas, there still remain about 40 acres of the original orange grove, a portion of which will become an arboretum within the next few years. Several older buildings also remain, including one which has been converted into the attractive Faculty Center and another into the Foundation headquarters, and many of the original temporary buildings.

The first permanent building, the Letters and Science Building, was occupied in 1963. This imposing structure, master planned to serve ultimately as a facility for undergraduate and graduate science instruction and research, has been used to house other programs until they could warrant new facilities of their own.

18 Faculty

Since 1963, growth has been rapid. The Music-Speech-Drama Building was completed in 1964, the Physical Education Building in 1965, the Library-Audiovisual Center in 1966, the Commons cafeteria facility in 1967, the Humanities-Social Sciences Building and Art Center in 1969, and the Administration-Business Administration Building and Engineering Building in 1971.

The latter two reflect a commitment to programs with high community involvement. In addition to the many undergraduate students who will study and learn in these buildings, many professional engineers and local businessmen also will use these very advanced facilities to continue their educations.

New buildings are being planned to keep pace with university enrollment increases. At least one new academic facility and several building additions are contemplated for the 1970's. Construction is due to begin in 1972 on a 25,000-square-foot, ultramodern Student Health Center, and plans for a large University Union are presently on the drawing board. These facilities will be available by the mid-1970's.

The ample freeway and surface street accommodations that approach the main entrance to the university's modern campus also provide comparatively easy access to the great and diverse learning resources available in Southern California: many other colleges and universities; museums, libraries, art galleries; zoos; and the wide variety of economic, governmental, social, and cultural activities and experiments that may be found in this dynamic and complex region of California and the United States.

STUDENTS OF THE UNIVERSITY

Much of the distinctive character and learning atmosphere of any campus comes from the nature and vitality of its students. Diversity, the synthesis of academic with work and family interests, strong high school records and relative maturity are some of the predominant characteristics of the student body at Cal State Fullerton. The campus is both a large and a still rapidly growing one despite its comparative newness. Nearly 16,000 students were enrolled in 1971–72, and this year's total is expected to be 17,600.

The university is a commuter institution: 4 percent of the students live on campus; 24 percent work 35 hours a week or more; and yet 60 percent take 12 or more units of coursework each semester. Seventy-five percent come from a radius of 15 miles from the campus, but many have lived elsewhere before coming to Orange County.

Twenty-three percent are lower division students, 56 percent are university juniors and seniors, and another 21 percent are doing graduate work. Over seven-eights of the upper-division students are transfers from other institutions, principally community colleges. Fifty-nine percent are men, and the median age is 23. Forty-one percent are women, and the median age is 22. Thirty-seven percent are married. One third of the students participate in both the day and evening programs during the regular semesters, and one tenth are involved only in the late afternoon or evening program.

Many already have clearly defined disciplinary, professional, and artistic interests. Some still are searching for a meaningful vocation and are in the process of exploring different fields of knowledge and the work that might develop from them. Most are trying to understand themselves and their world better so that they can become more effective human beings and citizens.

THE FACULTY

Central to the effectiveness of any institution of higher learning is the quality and dedication of its faculty. Cal State Fullerton is proud of the high caliber of its faculty and of the commitments of its individual faculty members to teaching and scholarship.

In the fall of 1971, there were 553 full-time and 242 part-time faculty members teaching on the campus. For the full-time faculty members the median age was 36, and almost all had had some previous college or university teaching experience before coming to Fullerton. Faculty members also have a wide variety of experiences and accomplishments in research, the arts, professional work, consulting, and other creative activities. Sixty-nine percent of the full-time faculty have earned their doctorate degrees, and these have come from more than 100 major colleges and universities.

Criteria for selection to the faculty include mastery of knowledge in an academic specialty, demonstrated skill and experience in teaching, and continuing interest in scholarly study and research. Retention and promotion criteria also include service to the university and to the community.

ACADEMIC PROGRAMS

The university offers a full four-year program of freshman through senior work as well as credential programs for teachers and graduate, master's level work in many disciplines and professional fields. The university provides a diversity of educational opportunities to satisfy the broad range of backgrounds and interests of its students. Approximately 1,500 courses have been developed to provide learning from introductory to highly specialized, in-depth and advanced, work in a wide variety and growing number of fields of study.

Fullerton currently awards the baccalaureate degree in 34 fields of knowledge. More advanced work and the master's degree are awarded in 28 programs. Many of the baccalaureate and master's degree programs offer a choice of specializations (or options or emphases). Additionally, at least a few courses are given in many fields or subject matter areas in which some other colleges and universities offer full degree programs. Often these courses are given by a number of different departments. Such an interdisciplinary trend fits not only with broader, cultural integration of knowledge but also with the recent development of a growing number of interdisciplinary efforts, including some new degree programs, at Fullerton.

Certain traditions have developed with the academic programs at Cal State Fullerton. One is that of relative balance in strength of the programs in the physical sciences, the social sciences, the humanities and the fine arts. Another is that of academic excellence in the various specializations offered by the university and the comparative freedom given to departments and professional schools to develop the depth programs for their majors. Another pattern is the great freedom given to most students in selecting courses to satisfy their general education or breadth requirements. Still other tendencies include the encouragement of: a diversity of approaches to teaching; experimentation and innovation in courses and programs; and student participation in curricular planning and decision-making.

ACCREDITATION

Cal State Fullerton is fully accredited by the Western Association of Schools and Colleges. Specific programs have been accredited by the California State Board of Education, the American Association of Collegiate Schools of Business, the National Association of Schools of Music, the American Chemical Society, the American Speech and Hearing Association, the American Council on Education for Journalism and the National Council for Accreditation of Teacher Education (in elementary education, secondary education, special education, and speech and hearing audiology).

Cal State Fullerton is a member of the Council of Graduate Schools in the United States and the Western Association of Graduate Schools.

SCHEDULE OF CLASSES

The regular, educational program of the university is offered continuously from 8 a.m. until 10 p.m., Monday through Friday. A class schedule, listing all classes meeting during these hours, is prepared for each semester and can be bought at the Titan Bookstore.

The classes held during the late afternoon and evening hours are a growing part of the regular university offering and are taught by the full-time and part-time university faculty members. Students enrolling in these classes must have met all admission requirements of the university, including the filing of an official application for admission, the filing of complete official transcripts from other schools, colleges and universities and in the case of lower-division applicants, the completion of required tests for admission.

The classes given during the summer sessions and by the Extension Office do not require admission to the university, but specific courses frequently require satisfying particular prerequisites. Separate schedules are provided for the summer sessions and extension programs.

SUMMER SESSIONS

The summer session is designed to meet the needs of students who are interested in the enrichment of their educational background as well as completing requirements for a degree or credential. Summer session courses are the equivalent of university courses offered in the fall and spring semesters, and apply toward graduation and residence requirements as well as teaching credential requirements. Both day and evening classes are scheduled. Many courses have prerequisite require-

ments which students must meet. Master's degree work is also offered.

The university usually conducts two six-week sessions which run consecutively.

The dates for the 1972 sessions are June 19 through July 28 for the first session, and July 31 through September 8 for the second. Also offered are a number of two- and three-week workshops. In addition to much of the regular curriculum, summer offerings include many unique and innovative programs for teachers and other professional groups. The Associated Students offers a program of recreational activities and a lecture series to serve a wide variety of interests.

A summer sessions class schedule is usually available by February, and may be obtained by writing the dean of continuing education. This schedule contains information on matters such as costs and registration.

Admission to the Summer Sessions

Although the quality of the program and most of the course offerings are the same as in the regular session, the university does not require an advance application or transcripts from students registering for credit courses in the summer session. However, students are expected to have satisfied the prerequisites for the courses in which they register. Admission to summer session does not grant admission to the regular session. Admission to the summer sessions is completed at registration.

Authorized Student Load

Title 5 of the California State Administrative Code states, "Not more than one semester unit may be earned for each week of attendance in summer session, except that upon approval of appropriate college authorities, additional semester units may be earned at the rate of one-half unit for each three units of credit for which a student is registered."

This means that combinations can be arranged so that a student may earn up to seven units during either of the two six-week summer sessions when a total of not more than two courses is involved (i.e., a four-unit course and a three-unit course, or a five-unit course and a two-unit course). Any student who enrolls by error in more than seven units during a six-week summer session will find that credit for excess units will not be counted toward a degree, credential or other objective. Any other exceptions must be petitioned through the Office of Admissions and Records.

EXTENSION PROGRAM AND SERVICES

The resources of Cal State Fullerton are made available through the extension program to those who are unable to take university work in residence but who wish to pursue university-level study for purposes of resuming an interrupted or incompleted education, to enhance professional or vocational abilities, or for personal growth and fulfillment.

Extension offerings include regularly established university courses as well as courses and workshops designed to meet the needs of particular groups and communities, and may be initiated at various times during the year. Any adult may enroll in an extension course provided he meets the prerequisites of the course; it is not necessary that he also be enrolled in the university.

The maximum extension credit which will be accepted toward baccalaureate degrees is 24 semester units, of which not more than 12 units may be transferred from other colleges or universities. Six semester units of extension credit may be applied toward a master's degree with appropriate approvals. Extension credit may not be used to fulfill the minimum residence requirements for graduation.

Veterans may use the educational benefits available to them under federal and state laws to enroll in university extension courses provided the classes are part of their prescribed and recognized objectives as approved by the Veterans Administration.

For information about establishing an extension course, or for current offerings, write or telephone the Extension Office.

CONFERENCES AND INSTITUTES

The university is interested in taking an active part in the development of conferences and institutes. The conference director, in cooperation with the respective academic departments and schools, will work with agency representatives in planning the program, selection of a competent staff, and the general conduct of the conference.

Requests for information or assistance with particular educational problems which might be met through the extension program should be directed to the conference director.

INTERNATIONAL PROGRAMS

A study abroad program of global scope is offered by the California State University and Colleges International Programs. Year-long study opportunities for students from all 19 campuses are available at distinguished institutions of higher learning throughout the world.

Cooperating universities abroad include the University of Provence, France; the Free University of Berlin and the University of Heidelberg, Germany; the University of Florence, Italy; the University of Stockholm and the University of Uppsala, Sweden; the University of Madrid and the University of Granada, Spain; Tel Aviv University and the Hebrew University of Jerusalem, Israel; and Waseda University, Japan. In the United Kingdom, cooperating universities, which may vary from year to year, have included Dundee, Leicester, Liverpool, London, Oxford, Sheffield, Southampton and Wales. An area studies program with instruction in English is also available in Taiwan, Republic of China.

Selected students remain enrolled and continue to earn residence credit at their California State University and Colleges campus. Full credit is earned for academic work successfully completed at the cooperating institutions abroad. Application of credit earned toward the degree requirements of the home campus is in accordance with college regulations. Students are selected from each campus on the basis of academic, linguistic and personal qualifications, as well as career objectives. Requirements include:

Upper division or graduate standing by the beginning of the academic year abroad.

Grades of B or better in at least 30 semester or 45 quarter units.

Proficiency in the language of instruction, as specified below.

Faculty recommendations.

Proficiency in the language of the host country is a requirement for the programs in France, Germany, Italy (except for students applying for the area studies program) and Spain. Even where language proficiency is not required, however, competence in the language of the host country will assure broader curricular opportunities.

Average expenses for the entire year—including round-trip transportation between California and the study centers, room and board, health and accident insurance, home campus fees, moderate vacation traveling, textbooks, and personal expenses—range from \$2,600 to \$3,050. Students ordinarily remain eligible for any financial aid for which they otherwise would qualify on their home campus.

Application for the 1973–74 academic year must be submitted before March 1, 1973 (except for United Kingdom applicants who must submit applications by January 5, 1973). Applicants are notified of acceptance by April 1, 1973. Detailed information may be obtained by writing to the California State University and Colleges International Programs, 5670 Wilshire Boulevard, Los Angeles 90036.

INSTRUCTIONALLY RELATED SERVICES

The university provides an extensive program of instructionally related services for its students and faculty. These include the universitywide services of the university Library, the Instructional Media Center and the Computer Center described in the following sections. Four offices, Academic Services and Planning, Academic Administration, Academic Staffing Services and Institutional Research, make studies on university programs and assist in coordinating, planning educational operations and sharing information on educational trends and innovations on the Fullerton campus with those going on elsewhere.

The Library

The university Library is housed on the first and third through sixth floors of the Library-Audiovisual Center, which was completed in 1966. As its collection grows and the enrollment increases, the Library will occupy the second floor of the building. Designed presently to seat approximately 1,150 persons and to house about 300,000 books as well as related materials, the building contains group study and seminar rooms, study carrels for graduate students and facilities for individual and group listening, for the reading of microform materials and for copying materials in book and microform.

The main book collection will contain about 315,000 volumes at the beginning of the 1972–73 academic year. During that year about 20,000 volumes will be added. Besides attempting to build a balanced collection of basic works, the Library has concentrated its efforts in several subject areas. As a result relatively strong collections are now available in such fields as World War II, international relations since 1870, Kant, Shakespeare, Melville, ichthyology, angling, historiography and historical bibliography, library science, mathematics and British and U.S. history.

A selective depository for U.S. government documents since 1964, the Library will house about 111,000 U.S. documents by the beginning of the 1972–73 academic year. The Library has, in addition, some 10,000 reels of microfilmed U.S. government documents, chiefly State Department archives, but also such items as the Congressional Record and the papers of various presidents as well as microfiche copies of the material in Project ERIC. The Library is a depository for California state documents and for California curriculum materials, including current samples of state adopted texts, curriculum guides from all over the United States, and non-book instructional materials.

The Library subscribes to over 4,000 periodicals. it has some 18,500 volumes of bound periodicals and has extensive microform holdings in backfiles of periodicals and of local, national, and international newspapers.

Among its major holdings are the Human Relations Area Files, the British 19th Century Parliamentary Papers, the Parliamentary Debates, a microfilm edition of the Published Colonial Records of the American Colonies, 1619–1800, and in conjunction with the Patrons of the Library, the Langsdorf Anniversary Collection of Grabhorn Press and Book Club of California books.

Library hours are posted in the lobby and listed in the Library information sheet which is available at the reference and circulation desks. Librarians with various subject backgrounds are on duty at all times to aid students and faculty in the use of Library resources.

Instructional Media Center

The Instructional Media Center includes both the extensive Audiovisual Services located in the lower level of the Library Building and the Instructional Television Services located in the Television Studio of the Music-Speech-Drama Building. Services to faculty and students include use of all types of audiovisual equipment and materials, rental of films from major rental libraries, and for faculty: production of transparencies, charts, posters, embossographs and diagrams plus all types of still and motion picture photography. Television services include videotaping facilities and playback both in the studio and on or off campus.

The center is responsible for the coordination and development of instructional applications of media, and the improvement of programs and materials designed for instructional use. Liaison and service relations are maintained with other media learning-oriented units on the campus. Personnel of the center are prepared to assist the faculty in their analysis of media needs as related to the procurement or production of materials pertinent to instructional development.

Computer Center

The Computer Center, located on the second floor of the Administration-Business Administration Building, serves as the central computing facility for all of the university. As the central campus computing facility, it provides support for instruction, research and administrative computing services.

The computing system at Fullerton is integrated into the State Distributed Computer Network which provides a wide range of computing services. The local campus computer is a CDC 3150 with 32,000 words (130,000 characters) of memory, card reader, card punch, printer, two tape drives and four disk drives. As a component of the network, the Computer Center can communicate with a large-scale CDC 3300 Computer located at the Division of Information Systems in Los Angeles. The Distributed Computer Network also provides time-sharing services on a CDC 3170 and access to an IBM 360/91 at UCLA. Keypunch, teletype terminals, a sorter and an interpreter for student use are available in an open shop area located in the Computer Center.

A computer science degree is offered jointly by the Departments of Quantitative Methods and Mathematics and the School of Engineering. Many other departments, including Sociology, Geography and Accounting, use the computer facility in their coursework. Students' jobs receive the highest priority of all work batch-processed on the CDC 3150. The Computer Center maintains a library of application programs for general use. Such languages offered by the system include FORTRAN, COBOL, ALGOL, BASIC and COMPASS (the assembly language for CDC).

Office of Academic Administration

The Office of Academic Administration was established in 1971 to coordinate the following instructionally related functions: Academic Staffing Services; Computer Services; Institutional Research; and Admissions and Records. The associate vice president for academic administration also provides supervisory direction for the Division of Health Education, Physical Education, Recreation and Athletics.

Office of Academic Staffing Services

The Office of Academic Staffing Services is responsible for all activities related to the scheduling of classes during the academic year. In addition to the preparation of the class schedule, the office coordinates all changes and adjustments to it, administers and prepares the staffing formula for the university, and has a primary responsibility for course-section and facilities utilization reporting during and after registration.

Office of Institutional Research

The Office of Institutional Research serves as an information center and a problem-solving agency which collects, interprets and disseminates information. These data include enrollment histories and projections, distributions of data classes according to selected factors (e.g. level, type of instruction, unit value), summaries of student characteristics, and other statistics related to student population, course offerings and resources. Most of the data collection and analysis is related to the reporting requirements of the California State University and Colleges and other agencies. However, the office evaulates data, provides assistance in design of specialized studies and also conducts analytic studies to serve the decision-making and policy-formulating needs of Cal State.

Office of Academic Services and Planning

In 1969 the Office of Academic Planning was created to coordinate the development of educational programs, to provide an all-university perspective on educational activities at the campus, and to stimulate academic innovations. A dean of academic planning was appointed to provide leadership for this office and to work closely with the vice president, academic affairs, the Curriculum Committee, the Committee for Educational Development and Innovation and other individuals and groups concerned with changing and improving the educational programs of this institution.

This office currently is responsible for preparing the catalog and for some of the university-level reviewing and approving of new courses and programs. It also makes studies of important educational problems and activities on the campus. Additionally, it does the preliminary fact finding and staff work for some of the new plans, policies and procedures designed to improve the quality and vitality of the learning climate and experiences on the campus.

The Office of Academic Planning was reorganized and expanded in 1971 to include coordination of the functions of the Library, the Instructional Media Center, the Office of Continuing Education and the Office of Academic Advisement. The associate vice president, academic services and planning also provides supervisory direction for the Division of Library Science.

RESEARCH ORGANIZATIONS AND SERVICES AND SPECIAL STUDY CENTERS

Much and varied research is going on at Fullerton. Most of this is being done by individual faculty members and students as part of their scholarly and professional development activities. Research training is an important part of the education for more advanced work in most disciplines and professions, and many of our students are encouraged and assisted to learn and apply research skills in either independent or team projects.

The Research Committee of the Faculty Council and the Contracts and Grants Office provide stimulus, coordination and direction to the research efforts of the university.

A Student Research Fellowship program and a Faculty Research Grant program award "seed grants" to promising research projects every year. Services supporting research are given by the Cal State Fullerton Foundation, the university Computer Center, and the university Library. Augmenting the on-campus aids to research are the great and diverse resources available for study in the Southern California area.

A number of special centers with specific research objectives are operating at the university. These

include the Center for Research in Business, Economics and the Community (with its affiliated Center for Economic Education, the Real Estate Research Institute, the Technological Studies Institute and the Joint Institute for Urban Studies), the Center for Governmental Studies, the Institute for Molecular Biology, the Reading Center, the Laboratory for Phonetic Research, the Special Education Clinic, the Speech and Hearing Clinic and the Tucker Wildlife Sanctuary.

Center for Research in Business, Economics and the Community

The Center for Research in Business, Economics and the Community provides:

- School of Business Administration and Economics and other faculty with additional opportunity to participate in research activities in order to improve and reinforce teaching and professional competence;
- Professional research and consultation services to the local area normally considered as being serviced by the university, including private business, labor, agriculture, and local government agencies;
- Educational services, e.g., seminars and conferences, to improve the level of understanding and competence of local decision-makers in specialized areas relating to business administration and economics; and
- 4. A focus, through research, for the education of students and citizens in the business and economic problems of the local community, and for the involvement of faculty in such educational programs.

The operations of the center are carried out by constituent institutes, programs, and projects for which the center provides overall leadership and coordination. The institutes are long-term, continuing organizations designed to operate in selected major problem and functional areas of strategic significance and concern to the school. Programs and projects within the center are organized to carry on work outside the institutes' area of interest, which are a smaller scale and for a shorter time-span.

Currently included within the Center for Research in Business, Economics and the Community are: the affiliated Center for Economic Education; the Real Estate Research Institute; the Technological Studies Institute; and the Joint Institute for Urban Studies.

Center for Economic Education

The Center for Economic Education is one of many such centers at colleges and universities in the United States working with the national Joint Council on Economic Education to expand economic understanding. Center programs include (1) services to schools and colleges, individual educators, and the community; (2) research and professional training; and (3) operation of an economic education information center. The center consists of a broadly based executive policy board; an administrative staff; and formally organized groups of participating users. Although operating autonomously, the center is affiliated with the Center for Research in Business, Economics and the Community.

Real Estate Research Institute

The Real Estate Research Institute conducts a continuing research program, with special emphasis on urban development in Orange County. Studies are undertaken in cooperation with various public and private agencies, including the University of California, but primary funding is from the California State Department of Real Estate. Opportunities exist for student participation in the various research activities.

Technological Studies Institute

The Technological Studies Institute conducts an interdisciplinary program of technological studies including research activities closely integrated with special course offerings and a library collection on technology. Research activities include study of methodology and techniques for measuring and analyzing technological change and its economic and social impacts; study of technology transfer and applications; and analysis of impacts of technological change on individuals, industries and society. Curriculum activities of the program are coordinated through the School of Letters, Arts and Sciences and courses included in the program are listed with that school's courses in this catalog.

Joint Institute for Urban Studies

The Joint Institute for Urban Studies represents a cooperative effort by California State University, Fullerton and the University of California, Irvine to study the processes and problems of urban development with special reference to Orange County.

Center for Governmental Studies

The Center for Governmental Studies is part of the Department of Political Science's expanding research and teaching activities. Established in 1965, the center has four major functions: first, to collect and make available fugitive governmental and political materials; second, to assist local government agencies and citizen groups in the study of local governmental problems; third, to provide students with instruction and experience in research techniques and methodology; and fourth, to provide facilities for community institutes and seminars.

Institute for Molecular Biology

The Institute for Molecular Biology was established for the purpose of promoting an atmosphere congenial to research and creative activity in the molecular biological sciences. It is an interdisciplinary organization comprised of certain faculty from the Departments of Biological Science, Chemistry and Physics. The institute is dedicated to the pursuit of problems of human welfare, utilizing an approach at the cellular and molecular level of inquiry. Its purposes are (1) to foster and encourage communication of ideas and information among its membership for mutual professional improvement; (2) to encourage students to adopt affiliation with the membership and to adopt an interdisciplinary understanding of their particular areas of emphasis; (3) to foster an active research program on the part of the membership on problems best approached by the integration of chemistry, physics and biology; and (4) to seek ways of improving the individual teaching performance of its membership through interdisciplinary communication at all levels of instruction.

It is intended that the institute will function as a service to the departments that it represents. The institute sponsors a series of special seminars devoted to topics in the molecular biological sciences, featuring speakers from its own personnel and from other campuses.

Reading Center

The Reading Center is located in the School of Education. Its primary purpose is to serve as a clinic and laboratory for graduate students in the reading option of the Master of Science in Education. Children from the university community schools attend the Reading Center for diagnosis and remediation. The center houses materials and equipment relating to reading instruction.

Laboratory for Phonetic Research

The Laboratory for Phonetic Research is a major research and training facility in the Department of Linguistics at Cal State Fullerton. It is equipped with the necessary electromechanical facilities required for the acoustical, psychoacoustical, and physiological study of human speech.

Its objectives are threefold:

Instruction. To provide teaching, training and experience for students who will serve during their professional lives to assist the language handicapped.

Research. To provide advanced students and faculty with facilities for research on language function and dysfunction.

Community service. To provide qualitative diagnostic assistance to the university community to the extent possible.

The courses which center about the laboratory are designed to prepare students as operators in the electromechanical aspects of clinical and research work in the analysis of normal and disordered speech.

Advanced students and faculty use the laboratory to carry out significant research projects in acoustical, articulatory and experimental phonetics. To date, a wide range of such projects have either been completed or are currently in progress. The laboratory publishes the *Research Reports* series, available internationally through the ERIC system.

Special Education Clinic

The primary purpose of the Special Education Clinic is to provide intensive experiences for students with children referred by schools and other agencies in the community. The experiences involve educational assessment, instructional methodology and evaluation. All students participating in the clinic attend clinic seminars and prepare cases for presentation at the seminars.

Speech and Hearing Clinic

The Speech and Hearing Clinic operates as a nonprofit California State University, Fullerton Foundation agency. In addition is an off-campus clinical program for graduate students that involves experiences within medical and paramedical settings. The primary purpose of the clinics both on campus and off campus is to provide opportunities for teaching, service and research. University students receive clinical experience and opportunity for observation. The on-campus clinic is accredited by the Board of Examiners of the American Speech and Hearing Association and the California State Department of Education.

Tucker Wildlife Sanctuary

The Tucker Wildlife Sanctuary operates as a nonprofit California State University, Fullerton Foundation agency. The sanctuary provides for a program of continuing educational service to the community; a research center for biological field studies; a facility for teacher education in nature interpretation and conservation education; and a center for training students planning to enter into the public service field of nature interpretation.

CALIFORNIA STATE UNIVERSITY, FULLERTON FOUNDATION

The California State University, Fullerton Foundation was established and incorporated in October 1959 to provide essential student and faculty services which cannot be provided from state appropriations; to supplement the program and activities of the university in appropriate ways; and to assist otherwise the university in fulfilling its purposes and in serving the people of the State of California—especially those of the area in which the school is located.

Services provided by the foundation include administration of scholarship and student loan funds; sponsored research programs; Tucker Wildlife Sanctuary; and certain institutes.

The foundation's overall policies are administered by a board of trustees made up of members of the university faculty, administration and students as well as community leaders.

TITAN SHOPS, INC.

On July 1, 1971, the Titan Bookstore and the food services were sold by the Foundation to Titan Shops, Inc., as recommended in Section 42407 of Title 5, California Administrative Code.

Titan Bookstore

Students are able to purchase or order books and supplies as needed for classes from the on-campus bookstore, owned and operated by the Titan Shops, Inc. The Titan Bookstore is a nonprofit operation: its proceeds are used to further the educational aims of the university. It is located directly east of the Letters and Science Building and is closely adjacent to the Administration-Business Administration Building.

Food Services

On the campus, the Canteen Corporation is franchised to provide food in the Commons and in a snack bar in the lower level of the Letters and Science Building. Vending machines also are located at other locations. A variety of restaurants and eating places also may be found within a short walking or driving distance from the university.





STUDENT SERVICES AND ACTIVITIES

The university provides many academically-related services for its students so that they can derive greater value from attendance at Fullerton. Included among the areas in which professionaly staffed services are provided are counseling and testing, student activities and government, a student residence center, health, financial aid, vocational rehabilitation, international education, placement, judicial affairs and alumni affairs. The offices which provide these services operate under the auspices of the dean of students.

Opportunities are provided for students to become involved in all phases of university life at Cal State Fullerton. The choices of activities range from membership in small interest groups to service with members of the faculty and administration on major fact-finding, decision-making and policy-recommending groups. An extensive organization of clubs, interest groups, boards, councils, and committees has been created within the student body and university community so that opportunities to participate in activities are available for all interested students.

OFFICE OF THE DEAN OF STUDENTS

Coordination of Student Personnel Services centers in the Office of the Dean of Students. The professional functions of this area are directly administered by the Counseling and Testing Center, the Student Activities Office, the Student Residence Center, the Office of Placement Services, the Financial Aid Office, the Office of Judicial Affairs, the Student Health Center and the Educational Opportunity Program. Collateral responsibilities include foreign student advising, coordination of the California State University and Colleges' international student programs, selective service, veterans affairs and the alumni program.

COUNSELING AND TESTING SERVICES

Counseling

Students who need assistance with such concerns as choosing an academic major or vocational goal, with study skills, or with personal problems affecting their academic progress may obtain help through the Counseling Center. The staff of professionally trained counselors and psychologists has available a variety of resources including occupational information files, vocational and psychological tests, college and graduate school catalogs and directories of various kinds to assist the student. The Counseling Center also maintains contact with agencies and professional persons in the commu-

The Counseling Center also maintains contact with agencies and professional persons in the community to whom students may be referred.

Counseling services are available only to fully matriculated, registered students.

Testing

Universitywide testing programs are coordinated and administered by the Testing Center. These include university admissions tests and general tests for graduate school admission. In addition, the Testing Center provides advice and consulting services to instructional departments in the development and administration of admission, selection, and placement tests for use by a specific department.

The Testing Center also conducts ongoing research on the validity and appropriateness of tests used in university testing programs.

Testing requirements for students seeking admission are listed in the admissions section of the catalog. Students seeking information about testing requirements for specific instructional programs should inquire in the appropriate instructional division or the Counseling and Testing Center.

STUDENT ACTIVITIES

The university recognizes the important role of student activities. An extensive organization of clubs, interest groups, commissions, councils and communities has been created within the student body structure so that opportunities are available to every student according to his interest, ability and available time.

Student Activities Center

The Student Activities Center provides a wide range of service. A professional staff provides aid and consultation to individuals and groups as well as assisting the Associated Students in planning and implementing programs, events and projects. The staff advises all student organizations concerning established policies and procedures, and aids students in arranging for use of university services and facilities.

Student Government

All registered students are members of the Associated Students of Cal State Fullerton. The Associated Students is governed through the executive, legislative, and judicial branches of the Associated Students organization. The president and commissioners constitute the executive branch which has the responsibility for the development and administration of the program, including such activities as publications, religious clubs, intercollegiate athletics, intramural athletics, forensics, and music. The Associated Students Senate has full responsibility for legislation by which this program is directed and for the allocation of student funds for the program. The judicial branch serves as the legal body for interpretation of the constitution and enforcement of Associated Student policies.

Student Organizations

Student organizations are recognized as vital to the total educational process. They are chartered to encourage and facilitate use of university resources and integrate activities with a goal of sustaining a viable university community. Any group of students may become a chartered organization, provided the goals and activities are consistent with university rules and regulations. Organizations are classified under the following headings: (1) *Cocurricular* (organizations which share learning goals with a specific department); (2) *Political or Religious;* (3) *Service;* and (4) *Social.* More than 75 organizations are now recognized, including seven national social fraternities, five national social social fraternities, a number of departmental associations and many special interest groups.

Student Publications

The university newspaper, the *Daily Titan*, is published as a product of the journalism classes and financed by the Associated Students. In addition, a handbook is available for use by organizations in the development and operation of their program. Two magazines, *Focus* and the *Promethean*, are also published by students.

Athletics

The intercollegiate athletic program consists of teams in baseball, basketball, cross country, football, golf, gymnastics, soccer, swimming, tennis, track and field, water polo and wrestling. A year-round program of intramural activities includes basketball, badminton, flag football, handball, softball, tennis and wrestling, swimming and weight lifting.

The university is a member of the California Collegiate Athletic Association (CCAA). All athletic teams compete under rules of the National Collegiate Athletic Association (NCAA).

Intramural Activities

The intramural program is conducted on a seasonal basis and involves a variety of athletic and recreational activities for both men and women. Rules and regulations which govern participation in the intramural program are available in the Office of the Director of the Intramural Program or in the Student Activities Center.

Extramural Activities

Participation by women in extramural volleyball, basketball, tennis, swimming, track, and golf is provided though membership in the Extramural Coordinating Council of Southern California and the American Recreation and Athletic Federation for University Women.

Recreation Programs

Individual recreation opportunities in weight training, swimming, handball, volleyball, basketball and badminton are available through membership in the University Recreation Programs to members of the student body, faculty and staff.

Draft Advisement and Information Programs

A professional staff provides information, guidance and referrals for students of the university on all questions and problems stemming from Selective Service requirements. This service, provided by the Associated Students, works closely with the Selective Service assistant in the Admissions and Records Office as well as all other areas of Student Personnel Services.

Birth Control Information Services

Birth control counseling at the Student Health Center has been supplemented by a Birth Control Information Service, financed and operated by the Associated Students under the direction of the university medical director. A part-time coordinator is available in the University Union to make appointments with a Student Health Center physician. The physician advises the patient on the advantages and disadvantages of the various methods of birth control as well as giving the necessary physical examination.

Campuswide Events

Student boards, organized by the Associated Students, sponsor many campuswide events. The lecture series, pop concerts, film series and special events are part of the ongoing program. All recognized student organizations frequently cosponsor events in the area of their interests.

Child Care Center

Sponsored by the Associated Students is the Children's Center which provides daytime nursery care for children of Cal State Fullerton students for a nominal fee. The professionally staffed center, located near the campus, is licensed by the State of California.

Experimental College

The Experimental College is a program created and funded by the Associated Students. A student director and his staff coordinate, guide, plan and publicize the program to the university community. The Experimental College is recognized by the university community as a creative, positive cocurricular program that is a supplement to the regular instructional program of the university.

Legal Information and Referral

This unique office provides assistance to students on matters pertaining to law and makes referrals in cooperation with the Orange County Bar Association and the Legal Aid Society. A full-time law student attending a recognized school of law maintains scheduled office hours in the University Union.

Mutual Ticket Agency

The Associated Students, through its business office, operates a ticket agency for the benefit of all students. Purchases for drama, music, shows and sporting events may be made during regular office hours. The agency is located in the University Union.

Student News Bureau

The Student News Bureau was organized in 1960 to provide the outside press with news of student activities on the campus. It is financed by a budgeted allocation from Associated Students.

University Union

The University Union is leased by the Associated Students from the university. This facility houses the Associated Students government offices and business office, as well as the Student Activities Center, student organizations rooms and a snack bar. Facilities are available to all students for meeting rooms, pool, cards, films, and small discussion groups. The union is located in the lower level of the Letters and Science Building.

STUDENT RESIDENCE CENTER

The Student Residence Center is responsible for maintaining lists of off-campus housing, rooms and apartments. These listings are continuously updated through conventional and computerized procedures.

In addition to its listing service, the center provides information about rental leases. Model leases which enumerate the rights and privileges of both tenant and landlord are available. Students having questions about tenant rights can obtain appropriate pamphlets from the center.

Assistance also is provided to students who are seeking roommates. A summer orientation program designed to bring together small groups of students having similar interests and housing needs is provided. A bulletin board containing lists of available rooms and roommates requested also is provided by the center.

STUDENT HEALTH SERVICES

The purpose of the Student Health Center is to provide high quality medical service early in the course of an illness, to promote a healthful and sanitary environment on campus in which to live and study, to stimulate better health awareness among the students, and to educate them to the high standards of good therapeutic and preventive care.

The Student Health Center is in Room 553 of the Letters and Science Building and is open from 8 a.m. to 5 p.m. Monday through Friday of each weekday that classes are in session. No staff is available when the Student Health Center is not open for off-campus calls. Special care and time are given to counseling of both emotional and physical problems. Physicians and nurses are continuously on duty during the day to care for emergencies and for the treatment of illnesses and injuries.

Among the services presently offered are the following:

- 1. Emergency care
- 2. Diagnosis and treatment of medical and surgical problems
- 3. Medical counseling
- 4. Psychiatric counseling and diagnosis
- 5. Specialists' diagnostic services when directly referred by the Student Health Center
- Follow-up care as may be recommended by the student's private physician within the scope of available facilities
- 7. Electrocardiography
- 8. Physical therapy treatment
- 9. Routine immunizations
- 10. Laboratory and X-ray facilities

All fees for care in the Student Health Center, unless otherwise specifically stated, have been prepaid by the State of California and by the student's registration fee. Only registered undergraduates and graduates are eligible for all or any of the health services offered. *Emergency* service is available to everyone on campus.

Health, Accident, Hospital Insurance

All students are urged to carry this type of insurance. An excellent policy at a low premium is available to all students through the Associated Students' Business Office. Medical care when the Health Center is not open is an expense of the student. Such insurance will defray much of the cost of private medical care.

FINANCIAL AID

The Financial Aid Office provides guidance and assistance in financial matters to all students. Financial aid administers all scholarships, emergency loans, grants, National Defense Loans and the work-study programs.

Scholarships

A limited number of scholarships is available for outstanding students. Qualified students should obtain scholarship applications from the Financial Aid Office, and return by April 15 for the fall semester. Scholarship applications are evaluated by the university Scholarship Committee. Awards are based on scholastic record, financial need and personal qualifications. Some scholarships are limited to students majoring in specified disciplines. Departmental recommendations weigh heavily in such cases.

Scholarships offered by Cal State Fullerton are made possible by interested organizations, business firms and individuals. Recent contributors to the scholarship program include:

California Congress of Parents and Teachers, Inc.
Cal State Fullerton Computer Center Scholarship Fund
California State Employees' Association (Cal State Fullerton Chapter)
Delta Delta Delta East Orange County Alumnae Chapter
Edward Mittleman Memorial Scholarship
Fourth District, California Parents and Teachers Association
Fullerton Rotary Club
Gamma Phi Beta Sorority (Orange County Alumnae)
Los Amigos Club of Fullerton
Mr. and Mrs. Rodney Coulson (President's Award)
Mu Phi Epsilon Scholarship Fund
Orange County Engineering Council Scholarship
Robert King Maxwell Memorial Scholarship Fund
Sadie Landon Memorial Music Scholarship Fund
Sheryl Cummings Memorial Scholarship Fund

Loans

The generosity of organizations and individuals enables the university to offer short-term loans to students who meet unexpected financial difficulties of a temporary nature. Loans from these funds are made for various periods of time and to specified categories of students, according to university regulations and the wishes of the donors. The prime purpose of these loans is to meet educationally related expenses, and thus loans cannot be made for the purposes which are normally financed by private lending institutions. Application for a short-term loan may be made at any time during the school year.

The following is a listing of the loan funds available during the 1972-73 school year:

Altrusa Club of Fullerton Loan Fund Associated Students Foreign Student Loan Fund Betty Casault Memorial Fund California Retired Teachers Association (Laura Settle Fund) Carrie Lou Sutherland Memorial Fund Cal State Fullerton Faculty Women's Club Loan Fund Gamma Epsilon Chapter of Delta Kappa Gamma Loan Fund lames Merrick Memorial Loan Fund Laura E. Imhoff Memorial Loan Fund Mary Virginia Lopez Memorial Loan Fund Pan-Hellenic Club of Northern Orange County Loan Fund Pierre Guvette Memorial Loan Fund Robert E. Edwards Memorial Loan Fund Rossmoor Women's Club Loan Fund Rotary Club of Fullerton, Foreign Students Loan Fund Soroptimist International Club of Fullerton Loan Fund Stan Chase Memorial Loan Fund Trust-Davis Memorial Loan Fund Zonta Club of Fullerton Loan Fund

National Defense Student Loans

Cal State Fullerton joins with the federal government and the State of California in making long-term, low-interest loans available to students under the National Defense Education Act. Details and applications are available at the Financial Aid Office. Deadlines for submissions of applications are December 1 for the spring semester, April 1 for the summer sessions and June 1 for the fall semester. All unmarried applicants under age 25 are required to file a Parents' Confidential Statement with the College Scholarship Service, Box 1025, Berkeley 94701, designating Cal State Fullerton as one of the recipients. The Parents' Confidential Statement assists the university to evaluate financial need, and, since it must be on hand before the loan application can be acted upon, early submission is advised. These forms can be obtained at most secondary schools or at the Financial Aid Office.

Federal Insured Loan Program

The university cooperates with the federal government and private lending institutions in making guaranteed loans available to full-time students. A loan recipient under this program must meet the following qualifications:

- a. have an adjusted family income of less than \$15,000 per year
- b. be a full-time student
- c. be enrolled and in good standing at the university or accepted for enrollment.

The interest on these loans is 7 percent per annum on the unpaid balance. The U.S. Office of Education will pay all interest while the student is enrolled as a full-time student. Repayment ranges from 5 to 10 years following graduation, according to arrangements made with the lender. Applications and further information may be obtained from the Financial Aid Office.

University Work-Study Program

The university cooperates with the federal government in providing work-study jobs. Students who can establish "need eligibility" may work up to an average of 15 hours a week during the school year and up to 40 hours in the summer. Under this program there are on-campus opportunities such as library and instructional aides, clerks, computer center aides, and laboratory and research assistants. Off-campus jobs in nonprofit community agencies include teacher aides, recreation leaders, office trainees, and administrative interns. Interested students should consult the Financial Aid Office for eligibility requirements.

Educational Opportunity Grants

Federal funds have been made available to the university to use in making grants to undergraduate students who display "exceptional financial need" and who would otherwise be unable to continue their education. These grants range from \$200 to \$1,000 per year and are non-repayable. These grants are always awarded in conjunction with other forms of aid, and thus a Parents' Confidential Statement is required. Deadlines are the same as for the National Defense Student Loans.

Alan Pattee Scholarship (Children of Deceased Peace Officers or Firemen)

Surviving children, natural or adopted, of California peace officers or firemen killed in the line of duty are not charged fees or tuition of any kind while enrolled at any California State University or College, according to the Alan Pattee Scholarship Act and Section 23762, California Education Code. Students qualifying for these benefits are known as Alan Pattee scholars.

INTERNATIONAL EDUCATION

Foreign Students

Special services for foreign students are coordinated by the international student counselor. These services include aid with problems concerning visa status and employment; orientation to academic procedures and requirements; advisement related to finances, social standards and customs; and to resources and opportunities offered by campus and community.

International Programs

Information concerning study opportunities for American students in foreign universities is available in the International Student Office. The international student counselor coordinates the selection of students applying for admission to one of the international programs operated by the California State University and Colleges in France, Germany, India, Israel, Italy, Japan, Spain, Sweden, Taiwan, United Kingdom and the U.S.S.R. (See also International Programs on page 21.)

VOCATIONAL REHABILITATION SERVICES

Students who have a physical, emotional or other disability which handicaps them vocationally may be eligible for the services of the State Department of Rehabilitation. These services include vocational counseling and guidance, training (with payment of costs of such as books, fees and tuition) and job placement. Under certain circumstances students may also qualify for help with medical needs, living expenses and transportation.

Contact the California State Department of Rehabilitation, 421 North Brookhurst Street, Anaheim 92801. Telephone (714) 635-5500.

EDUCATIONAL OPPORTUNITY PROGRAM

The Educational Opportunity Program is an innovative educational program designed to provide comprehensive services for culturally different students. These services include the identification, selection and counseling of students who, because of academic, ethnic, financial or motivational barriers, would not normally acquire a university education.

EOP gives each of the students in its program much individual attention. It also uses knowledge of the culturally different student's distinctive patterns of social behavior, learning styles, motivations and aspirations to assist students in realizing their full potentialities. Special tutorial and counseling activities are used so that EOP students will be more effective in their regular coursework at the university. The Educational Opportunity Program also strives to develop esprit and a sense of community among its students through a variety of creative and identity-seeking activities.

Its students are encouraged not only to understand the background and strengths of their own particular ethnic groups but also to work together in support of central, universal human values. EOP also is keenly interested in advancing the understanding of different cultural groups on this campus and an awareness of their problems and potentialities. It has been active in supporting the ethnic studies departments and their courses. EOP also has worked effectively to bring university students, faculty and administrators into more frequent and meaningful contacts with students and community members from culturally different groups.

The service departments of the Educational Opportunity Program include counseling, tutorial, faculty liaison and research evaluation. Other components structured to assist students are special activities, recruitment and supporting secretarial services.

PLACEMENT SERVICES

A centralized Placement Center is maintained with responsibilities for assisting students in finding both part-time and career employment. The university believes that it best serves both the student and employers only when its graduates have been placed in the professions for which they are prepared and trained.

Part-Time Placement

Students wishing part-time jobs either on or off campus are eligible to receive the assistance of the office if they are taking three units or more. New students may receive service as soon as they have been issued a student body number. Secretarial skills are in great demand, but calls for drivers, custodians, teacher aides, draftsmen, waiters, clerks, youth and recreation leaders, sitters, gardeners, etc., are received. Entering freshmen who must augment their resources while going to school are encouraged to limit their work hours to approximately 15 per week.

Business, Industry and Government Placement

Through personal interviews the career placement counselor assists graduating seniors, graduate students, and alumni seeking career employment in business, industry, or public service in defining occupational preference, providing active job leads and making up résumés.

In addition, the Placement Center makes arrangements for the on-campus recruitment program which brings the employers to the students. Also available through the center are applications for computerized job placement service operated by the Cal State Fullerton Placement Council. It is called GRAD (Graduate Résumé Accumulation and Distribution) and it is for the Cal State alumni seeking new professional opportunities.

Located in the Placement Center is the Career Library with an ever-expanding selection of resource materials on career opportunities. Federal, state, county, city and armed forces brochures and applications are also available for student access.

The Placement Center serves as liaison office for the military and Action/Peace Corps-VISTA offering counseling and information brochures to any interested student.

Educational Placement

Students in the teacher education, pupil personnel services, or administration curriculum of the university, who are in the final semester of a credential program, or who are in student teaching or directed field work, are eligible to register and receive the services of the Placement Center, chief of which is help in establishing a professional employment file. Such registrants are supplied information on openings and helped to establish their candidacies in the school districts and educational institutions.

Students who are not in the student teaching program but who are completing their credential program at the university are also eligible for service. This includes those about to receive their master's degree, who plan to apply for a community university credential.

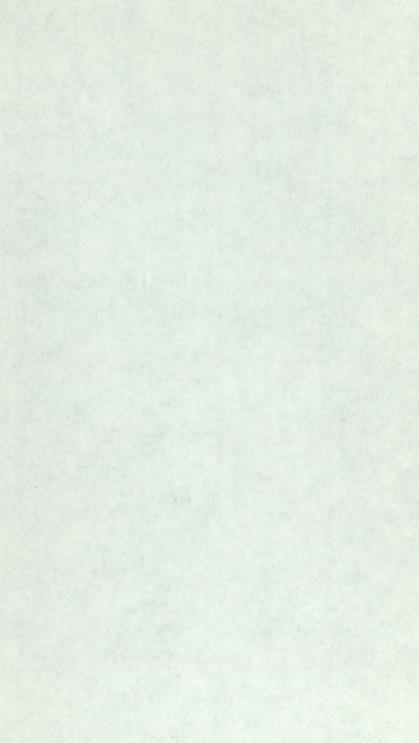
JUDICIAL AFFAIRS

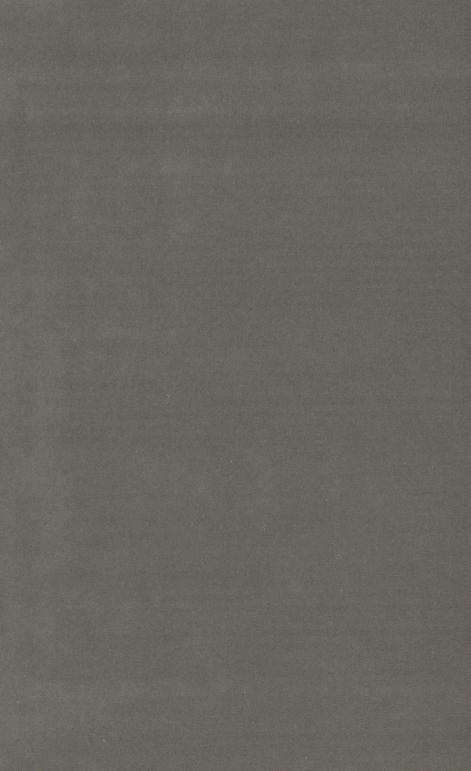
The Office of Judicial Affairs is concerned with formulating and adjudicating student rights and grievances as well as clarifying diverse responsibilities which are essential to a vigorous, responsive and productive educational community. This purpose is accomplished through the coordination and implementation of the judicial procedures of the university related to student conduct and academic appeals; reviewing policies involving student rights and responsibilities as outlined in University Policy Statement 300.000, Statement of Students Rights and Responsibilities; discipline, advocacy and the like in order to recommend changes which benefit students and the university community as a whole.

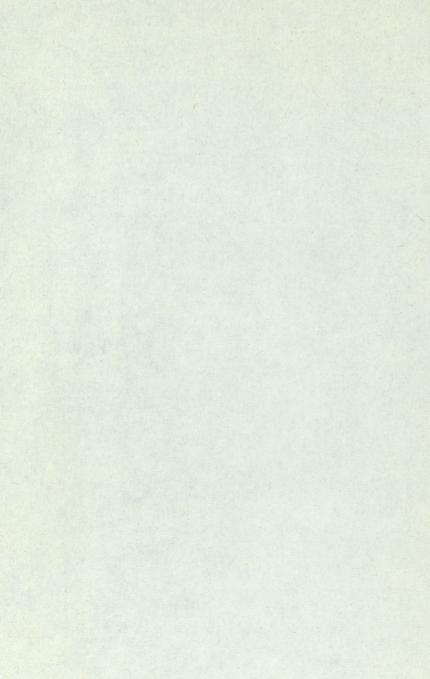
Additionally, the Office of Judicial Affairs carries out special projects related to Student Personnel Services

ALUMNI AFFAIRS

The Alumni Association of Cal State Fullerton provides the opportunity for alumni to maintain contact with the university after graduation through various publications, information about continuing education programs as well as special social and service events at the university. Further information regarding membership and the programs can be obtained by calling the Office of Alumni Affairs.







ADMISSION TO THE UNIVERSITY

OFFICE OF ADMISSIONS AND RECORDS

The Office of Admissions and Records is responsible for the administration of the admission, registration, and records programs and services for undergraduate and graduate students in the regular sessions of Cal State Fullerton. These programs and services include: the admission and readmission of students within established enrollment categories, quotas and priorities; the evaluation of the applicability of undergraduate transfer credit toward all-university requirements of the curriculum; the registration of student programs of study, including enrollment into classes; the maintenance of academic records; the administration of academic probation and disqualification policies; the provision of enrollment certifications on student request, including transcripts of academic records, certificates for Selective Service, Veterans Administration and other purposes; the exceptions to academic regulations; and the provision of information about these programs and services.

RELATIONS WITH SCHOOLS AND COLLEGES

The Office of Relations with Schools and Colleges administers a universitywide program to assist undergraduate students in the transition from school to college. This assistance is provided in the form of preadmission guidance to prospective students, counseling with parents, provision of current information about the university's curricula and requirements to school and college counselors, and research into the articulation problems of the transfer student.

Requirements for Admission

Requirements for admission to the California State University and Colleges are in accordance with Title 5, Chapter 5, Subchapter 2, of the California Administrative Code as amended by the Board of Trustees of the California State University and Colleges on November 24, 1970. A prospective applicant who is unsure of his status under the requirements is encouraged to consult his school or college counselor or the university Admissions Office.

Application Procedure for 1973-74

All prospective students must file a completed application for admission within the appropriate filing period. A completed undergraduate application includes Part A, the application form; Part B, the residence questionnaire; Part E, the data form; and the nonrefundable application fee of \$20. A graduate application includes Parts A, B and E; Part C, the supplemental graduate admission application; and the nonrefundable application fee of \$20. Graduate applicants who were enrolled as undergraduate students at the university in the term immediately preceding the term for which they now wish to apply must also complete all the required forms and submit the \$20 application fee. Each applicant may file only one application for any one term within the California State University and Colleges. The application should be filled with the campus of first choice. Alternative choice campuses may be listed on the application.

Admission Categories and Quotas

Admission quotas are established at each college for student categories selected within policies established by the Trustees of the California State University and Colleges. At Fullerton, categories have been established for students who are: first-time freshmen; freshman and sophomore undergraduate transfer applicants; junior and senior undergraduate transfer applicants; special program applicants; hardship applicants; and foreign students. Also, there is a quota for each graduate level program. After admission to Fullerton, requests for change to a different (i.e., a new) academic objective involving established admission categories and quotas will be evaluated following policies and procedures parallel to those for new students.

Application Filing Periods for 1973-74

		Begins (continues until
Term	Initial Filing Period	quotas are reached)
Summer quarter 1973	Jan. 2-31, 1973	Feb. 2, 1973
Fall quarter 1973	Nov. 1–30, 1972	Dec. 1, 1972
Fall semester 1973	Nov. 1–30, 1972	Dec. 1, 1972
Winter quarter 1974	June 1–30, 1973	July 1, 1973
Spring semester 1974	Aug. 1–31, 1973	Sept. 1, 1973
Spring quarter 1974	Aug. 1–31, 1973	Sept. 1, 1973

Extended Filing Period

Quarter Calendar

Semester Calendar

		Aunite, cuicinal		
Chico	San Diego	Bakersfield	Pomona	
Fresno	San Fernando	Dominguez Hills	San Bernardino	
Fullerton	San Francisco	Hayward	San Luis Obispo	
Long Beach	San Jose	Humboldt	Stanislaus	
Sacramento	Sonoma	Los Angeles		

Initial Filing Period

All applications received during the initial filing period will receive equal consideration within established enrollment categories, quotas, and priorities, irrespective of the time and date they are received.

Space Reservations

Applicants who can be accommodated within category quotas will receive confirmation of space reservation. Although the space reservation is not a statement of admission, it is a commitment on the part of the university to admit a student once eligibility has been determined. When the student receives notice of the space reservation, he should initiate action to have transcripts of all college and high school work sent to the campus where space has been reserved. The institution will inform him of the number of copies of transcripts required, dates for submittal, and where they should be sent. The student should not request that transcripts be sent until requested to do so by the campus where space has been reserved.

Redirection

Applications of students who cannot be accommodated at their first choice campus will automatically be redirected to their second choice, and, if they cannot be accommodated there, to their third choice, and so on.

Hardship Petitions

Each college or university has established procedures to consider qualified applicants who would be faced with an extreme hardship if not admitted. Prospective hardship petitioners should contact the campus regarding specific policies governing hardship admission.

Extended Filing Period

Campuses not filling enrollment quotas during the initial filing period will continue to accept applications during the extended filing period until quotas are filled. Application priority within the extended period will be granted in chronological order of application receipt.

How to Apply

 Submit a completed application for admission within the announced filing period accompanied by the required application fee to:

Office of Admission and Records California State University, Fullerton Fullerton, California 92634

2. Request required transcripts of record of all previous scholastic work from each school or

college attended when asked to do so by the campus where space has been reserved for you. The transcripts required at Fullerton are

-for undergraduates-

(a) the high school transcript, and

- (b) a transcript from each college or university attended. Undergraduate applicants for a teaching credential must submit two copies of the transcript from each college or university attended;
- -for graduates-
 - (a) applicants for unclassified graduate standing with no degree or credential objective must submit a transcript from the college or university where the baccalaureate was earned.
 - (b) applicants for a master's degree or teaching credential, or both, must submit two copies of the transcript from each college or university attended.

All students are advised that they should also have a complete set of college transcripts for their personal use at all times of advisement.

All transcripts must be received directly from the issuing institution to be considered official and cannot be returned to the student. Foreign language transcripts must be accompanied by certified English translations.

3. If required, submit the scores from either the Scholastic Aptitude Test or the American College Test. Scores are required for all undergraduate applicants with fewer than 60 completed semester units of study (90 quarter units). Applicants to classified graduate curricula must submit the scores of any qualifying examinations required in their prospective program of study.

UNDERGRADUATE ADMISSION REQUIREMENTS

First-time Freshmen

Applicants who have completed no college work after high school graduation will be considered for admission as first-time freshmen under one of the following provisions. Results of either the CEEB Scholastic Aptitude Test (SAT) or the American College Testing program examination (ACT) are acceptable in establishing eligibility.

Exceptions: College credit earned concurrent with high school enrollment; college credit earned in summer session after high school and prior to regular matriculation in college; college credit granted for the CLEP or Advanced Placement programs, or military or USAFI courses; or college credit granted for some nontraditional learning experience, will *not* affect the applicant's status as a first-time freshman for application quota purposes as well as admission. Further, the accelerated student, who completes his high school program mid-year, who has applied to the California State University and Colleges for the following fall term, but chooses to attend a local community college in the spring term will be considered a first-time freshman for application quota purposes as well as admission. All such college or advanced standing credit, if fully acceptable as transfer credit, will be granted the student after admission.

California high school graduates or legal residents for tuition purposes must have a grade-point average and total score on the SAT, or composite score on the ACT, which together provide an eligibility index placing them in the upper one-third of California high school graduates. For 1972–73 the minimum eligibility index is 3,072 using the SAT or 741 using the ACT.

High school graduates from other states or possessions who are nonresidents for tuition purposes must present an eligibility index which places them in the upper one-sixth of California high school graduates. For 1972–73 the minimum eligibility index is 3,402 using the SAT or 826 using the ACT.

The eligibility index is computed either by multiplying the grade-point average by 800 and adding it to the total SAT score, or multiplying the grade-point average by 200 and adding it to 10 times the composite ACT score. Grade-point averages are based on work completed in the last three years of high school, exclusive of physical education and military science.

As an alternative, the following table may be used to determine the eligibility of graduates of California high schools (or California legal residents) for freshman admission to a California State University or College. This table is based on the eligibility index. Scores shown are the SAT Total and the ACT Composite. Students with a given GPA must present the corresponding test score. Conversely, students with a given ACT or SAT score must present the corresponding GPA in order to be eligible.

44 Admission of Undergraduate Students

ADMISSIONS TABLE FOR CALIFORNIA HIGH SCHOOL GRADUATES OR CALIFORNIA LEGAL RESIDENTS

	ACT	SAT		ACT	SAT	legy my soborah	ACT	SAT
GPA	Score	Score	GPA	Score	Score	GPA	Score	Score
()*			2.80	19	832	2.39	27	1160
3.20	11	512	2.79	19	840	2.38	27	1168
3.19	-11	520	2.78	19	848	2.37	27	1176
3.18	11	528	2.77	19	856	2.36	27	1184
3.17	11	536	2.76	19	864	2.35	28	1192
3.16	11	544	2.75	20	872	2.34	28	1200
3.15	12	552	2.74	20	880	2.33	28	1208
3.14	12	560	2.73	20	888	2.32	28	1216
3.13	12	568	2.72	20	896	2.31	28	1224
3.12	12	576	2.71	20	904	2.30	29	1232
3.11	12	584	2.70	21	912	2.29	29	1240
3.10	13	592	2.69	21	920	2.28	29	1248
3.09	13	600	2.68	21	928	2.27	29	1256
3.08	13	608	2.67	21	936	2.26	29	1264
3.07	13	616	2.66	21	944	2.25	30	1272
3.06	13	624	2.65	22	952	2.24	30	1280
3.05	14	632	2.64	22	960	2.23	30	1288
3.04	14	640	2.63	22	968	2.22	30	1296
3.03	14	648	2.62	22	976	2.21	30	1304
3.02	14	656	2.61	22	984	2.20	31	1312
3.01	14	664	2.60	23	992	2.19	31	1320
3.00	15	672	2.59	23	1000	2.18	31	1328
2.99	15	680	2.58	23	1008	2.17	31	1336
2.98	15	688	2.57	23	1016	2.16	31	1344
2.97	15	696	2.56	23	1024	2.15	32	1352
2.96	15	704	2.55	24	1032	2.14	32	1360
2.95	16	712	2.54	24	1040	2.13	32	1368
2.94	16	720	2.53	24	1048	2.12	32	1376
2.93	16	728	2.52	24	1056	2.11	32	1384
2.92	16	736	2.51	24	1064	2.10	33	1392
2.91	16	744	2.50	25	1072	2.09	33	1400
2.90	17	752	2.49	25	1080	2.08	33	1408
2.89	17	760	2.48	25	1088	2.07	33	1416
2.88	17	768	2.47	25	1096	2.06	33	1424
2.87	17	776	2.46	25	1104	2.05	34	1432
2.86	17	784	2.45	26	1112	2.04	34	1440
2.85	18	792	2.44	26	1120	2.03	34	1448
2.84	18	800	2.43	26	1128	2.02	34	1456
2.83	18	808	2.42	26	1136	2.01	34	1464
2.82	18	816	2.41	26	1144	2.00	35	1472
2.81	18	824	2.40	27	1152	() †		

Graduates of High Schools in a Foreign Country

Applicants who are graduates of foreign high schools must have preparation equivalent to that required of eligible California high school graduates. The university will carefully review the previous record of all such applicants and only those with promise of academic success equivalent to that of eligible California high school graduates will be admitted. Such applicants are not required to take either the SAT or ACT.

^{*} Students earning grade-point averages above 3.20 are eligible for admission.

[†] Students earning grade-point averages below 2.0 are not eligible for admission.

Non-High School Graduates

Applicants who are over 18 years of age, but have not graduated from high school, will be considered for admission only when preparation in all other ways is such that the university believes promise of academic success is equivalent to that of eligible California high school graduates.

High School Students

Students still enrolled in high school will be considered for enrollment in certain special programs if recommended by their principal and if in the judgment of the university their preparation is equivalent to that required of eligible California high school graduates. Such admission is only for a given course or program.

Recommended Preparation

Overall excellence of performance in high school subjects and test score evidence of academic potential provide the best bases for predicting success at Cal State Fullerton. While no specific course pattern is required, prospective students are strongly encouraged to include the following subjects in their preparation for work at Fullerton: college preparatory English; another language; mathematics; laboratory science; history or social science (or both); and study in speech, music, art and other subjects contributing to a well-rounded academic background. Students who anticipate intensive study in science are urged to take four years of mathematics and three years of foreign language in high school.

ADMISSION OF UNDERGRADUATE TRANSFER STUDENTS

Applicants for admission as undergraduate transfers will be considered for admission under one of the following provisions:

Applicants who have successfully completed 60 or more semester units, or the equivalent, are eligible for admission if they have achieved a grade-point average of 2.0 (C) and were in good standing at the last college attended. Nonresident applicants must have earned a grade point average of at least 2.4 (C+).

Applicants who have successfully completed fewer than 60 semester units, or the equivalent, are eligible for admission if they meet the above requirements and the current first-time freshman requirements. Applicants for admission as transfer students who have been continuously enrolled at a college since graduation from high school are eligible if they meet the first-time freshman requirements in effect at the time of their high school graduation. Either SAT or ACT test results are required of transfer applicants with fewer than 60 semester units.

Note: For terms beginning on or after September 1, 1974, college credit used in the admission of all undergraduate transfer students will be that credit determined to be transferable college credit.

Other Applicants

Applicants not admissible under one of the above provisions should enroll in a community college or other appropriate institution. Only under the most unusual circumstances, and then only by special action, will such applicants be permitted to enroll in the university.

REDIRECTION

It is not possible for the university to accommodate all qualified applicants. If an application is accepted and it later becomes evident that admission will not be possible, the application will, at the applicant's request, be forwarded to any other California State University or College where space is still available. No additional application fee then will be required.

ADMISSION OF GRADUATE STUDENTS

Unclassified Graduate Status

For admission with graduate standing as an unclassified graduate student, a student: shall have completed a four-year college course and hold an acceptable baccalaureate degree from an accredited institution; or shall have completed equivalent academic preparation as determined by the appropriate authorities; and additionally must satisfactorily meet the professional, personal, scholas-

tic and other standards for graduate study (including qualifying examinations) that the appropriate authorities may prescribe. Such admission does not, however, constitute acceptance to specific graduate degree or credential curricula.

Classified Graduate Status

A student who has been admitted to a California State University or College under the unclassified graduate requirement above may, upon application, be admitted to an authorized graduate degree or credential curriculum if he satisfactorily meets the professional, personal, scholastic, and other standards for admission to the graduate curriculum (including qualifying examinations) that the appropriate authorities may prescribe.

ADMISSION OF STUDENTS FROM OTHER COUNTRIES

Normally, the university accepts for consideration only two categories of applicants from other countries:

- Those who have completed, with a good academic record, a two-year program in an accredited institution of higher education.
- Those who have completed a bachelor's degree or its equivalent, with a good academic record, in an accredited institution and wish to enroll as graduate students.

All applicants whose native language is other than English are required to present a satisfactory score on the Test of English as a Foreign Language (TOEFL). The international administrations of this examination are scheduled for October 30, 1972; and January 15, March 26, and June 4, 1973. Applicants should obtain the *TOEFL Bulletin of Information* and registration forms well in advance. Copies of this bulletin and registration forms are often available at American embassies and consulates, offices of the United States Information Service, United States educational commissions and foundations abroad, bi-national centers, and several private organizations. Those who cannot obtain locally a *TOEFL Bulletin of Information* should write to: Test of English as a Foreign Language, Box 899, Princeton, New Jersey, U.S.A., 08540.

Application procedures in other respects are the same as for other students, except that transcripts of educational documents in languages other than English must be accompanied by approved translations into English.

SUMMER SESSION STUDENTS

Although the quality of the program and most of the course offerings are the same as in the regular session, the university does not require an advance application or transcripts from students registering for credit courses in the summer session. However, students must be high school graduates and are expected to have satisfied the prerequisites for the courses in which they register. In addition, students are expected to file a request to register in the summer session. Admission to summer session does not grant admission to the regular session.

READMISSION OF FORMER STUDENTS

A student previously enrolled in the university, planning to return after an absence of one or more semesters, must file a new application for admission in accordance with procedures set forth below. The application fee is required if the student was not enrolled in either of the two semesters prior to the semester to which he is seeking admission or if he was enrolled in another institution during his absence from Cal State Fullerton. Unless a leave of absence was granted, catalog requirements at the time of readmission will apply.

Former Students in Good Standing

A student who left the university in good standing will be readmitted provided any academic work attempted elsewhere since the last attendance does not change his scholastic status. Transcripts of the record of any work attempted in the interim are required.

Former Students Who Were on Probation

A student on probation at the close of his last enrollment will be readmitted on probation provided he is otherwise eligible. The student must furnish transcripts of any college work taken during his absence.

Former Students Who Were Disqualified

The readmission of a previously disqualified student is by special action only. Ordinarily the university will consider an application for reinstatement only after the student has remained absent for a minimum of one year following disqualification and has fulfilled all recommended conditions. In every instance, readmission action is based on evidence, including transcripts of study completed elsewhere subsequent to disqualification, which in the judgment of the university warrants such action. If readmitted, the student is placed on scholastic probation.

GENERAL INFORMATION ABOUT ADMISSION

Determination of Residence

The following statement of the rules regarding residency determination is not a complete discussion of the law, but a summary of the principal rules and their exceptions. The statutes governing residence determination for tuition purposes are found in Education Code Sections 23753.2–23762, Government Code Sections 243–244, and Civil Code Section 25. The determination of whether a student qualifies as a "resident" for admission and tuition purposes is made by the university after review of a "Residence Questionnaire" completed by each student upon entering the university. The residence questionnaire is designed to provide to the university information necessary for residency determination, including the applicability of any exceptions.

The general rule is that a student must have been a California resident for at least *one year* immediately preceding the residence determination date in order to qualify as a "resident student" for admission and tuition purposes. A residence determination date is set for each academic term and is the date from which residence is determined for that term.

Whether a student has acquired California residence usually depends on whether the student has attained majority; i.e., has become an adult. Majority is attained at 18 years of age. If the student is a minor, residence is derived from (and therefore is the same as) that of his or her father. If the father is not living, the student's residence is that of the mother while she remains unmarried. A minor cannot change his residence by either his own act or that of his guardian.

Upon attaining majority, the student may acquire a residence apart from his or her parents. The acquisition of California residence by an adult requires both physical presence in the state and, at the same time, an intent to remain in California indefinitely, that is, an intent to regard California as one's permanent home. Although physical presence is easily proven, subjective intent is more difficult, requiring the student to present evidence of various objective manifestations of such intent.*

The residence of a married woman is that of her husband unless she is separated, in which case she can establish her own residence. An alien is not eligible to acquire residence until admitted into the United States for permanent residence under an immigrant visa.

Since the general rules of residence determination, summarized above, work hardships in some cases, the Legislature has provided a number of exceptions which, in effect, waive nonresident tuition. These rules are limited in scope, and are quite detailed. If it appears that any of them may be applicable, the student may wish to discuss the matter with the residence clerk of the university. Exceptions are provided for:

- Minors living under the direct care and control of a California resident for periods of time which
 are specified in the law.
- 2. Minors whose parents were California residents but who have left the state. (Depending on the length of the parents' residence in California, the minor is given a "grace period" during which he is considered a California resident even though his or her parents have become residents of another state.)
- 3. Minors who have a parent in active military service and stationed in California on the residence determination date; California resident minors who have a parent in active military service but stationed outside the United States on the residence determination date, and California resident spouses of such servicemen.
- 4. Persons who have attained their majority by the residence determination date, and who were

^{*} The foregoing rules will have a special application during the 1972–73 academic year with respect to persons who attain their majority as a result of the recent legislative change reducing the age of majority from 21 to 18.

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entirely self-supporting and present in California for the entire preceding year.

- 5. Women who are California residents and who marry nonresidents provided residence is not established in any other state.
- 6. Children of deceased public law enforcement or fire suppression employees, who were California residents, and who were killed in the course of law enforcement or fire suppression duties
- 7. Full-time California State University or College employees and their children and spouses.
- 8. Certain credentialed, full-time employees of school districts.
- 9. Certain exchange students.

The student is cautioned that this summation of rules regarding residency determination is by no means a complete explanation of their meaning. The student should also note that changes may have been made by the Legislature between the time this catalog is published and the relevant residence determination date

Admission to Credential Programs

Admission to the university as a student does not constitute admission to the teaching credential program. Students who plan to work toward teaching credentials must apply to the School of Education following procedures available from the School of Education.

Cancellation of Admission

A student who is admitted to the university for a given semester but who does not register in the specified semester will have his admission canceled. The student must file a new application form when he again seeks admission and must follow the complete application procedure and meet the then current admission requirements.

Honors at Entrance

Honors at entrance are awarded to both freshman and transfer students who have demonstrated outstanding achievement in past academic work. For first-time freshmen who no previous college units earned, a grade-point of 3.5 on a 5-point scale must be earned in the coursework considered for admission to the university. Students who have completed fewer than 60 college semester units of credit must meet the grade-point average criteria for first-time freshmen and must also have earned a 3.5 grade-point average on all this past college work attempted. Students who have completed 60 or more semester college units are eligible if a grade-point average of 3.5 is earned in all college work completed.

Undergraduate Entrance Testing Requirements

All undergraduate students, who have completed fewer than 60 semester or 90 quarter units of college work, are required to submit scores from either one of two national testing programs before eligibility for admission to the university can be determined. This requirement does not affect undergraduate students who have previously attended Cal State Fullerton and who have submitted ACT or SAT scores at the time of their first admission.

Registration forms for either test may be obtained from high school and community college counselors, Cal State testing offices or directly from the testing service at the address below:

SAT

CEEB Box 1025

Berkeley, Calif. 94770

Dates Test Given:

Oct. 14, 1972

Nov. 4, 1972

Dec. 2, 1972 Jan. 13, 1973

March 3, 1973

April 7, 1973

May 5, 1973

July 14, 1973

ACT

Registration Unit P. O. Box 168

Iowa City, Iowa 52240

Dates Test Given:

Oct. 21, 1972

Dec. 9, 1972

Feb. 24, 1973 April 28, 1973

July 21, 1973

To take one of these tests:

- Obtain a registration form and a Student Information Bulletin from your high school or community college counselor, from one of the addresses above, or from the university Testing Center.
 Select a test center near your home from the list printed in the Bulletin.
- Send the completed registration form and the appropriate test fee to the proper address. Do not send to the Fullerton campus.
- Have your ACT or SAT scores reported to the Testing Center, Cal State Fullerton. These scores should be received before the deadline for application. Use the appropriate code number for score reports.

If you have already taken either the ACT or SAT send \$1 to the appropriate testing agency and request that your scores be reported to the Testing Center. Use appropriate code number when requesting such reports, and provide complete information concerning testing date, test center, name and address changes, etc. These test scores when included on high school or college transcripts are not acceptable.

Health Requirements for Admission

Undergraduate and graduate students must, upon admission, submit completed health history and physical examination forms. In addition, evidence of a negative chest X-ray taken within 12 months before their registration must be presented. A tuberculin skin test may be obtained in lieu of an X-ray. Evidence of a smallpox vaccination within the past 10 years is also required.

The following services may be completed at the Student Health Center for a charge of \$1: urinalysis, hemotocrit, tuberculin skin test and smallpox vaccination.

All health requirements must be satisfactorily completed before the student will be allowed to complete registration. It is urged that the health clearance be obtained before the date of registration as this will conserve the student's registration time.

EVALUATIONS OF ACADEMIC RECORDS

Evaluation of Transfer Credits

The Office of Admissions will evaluate previous college work in terms of its relationship to the requirements of Cal State Fullerton. All degree candidates will be issued a credit summary during the first semester of attendance which serves as a basis for determining specific remaining requirements for the student's specific objectives.

Once issued to a student, the evaluation remains valid as long as the student enrolls at the date specified, pursues the objective specified, and remains in continuous attendance. The student will not be held to additional graduation requirements unless such requirements become mandatory as a result of changes in the California Administrative Code or the California Education Code. If the student does not remain in continuous attendance and has not applied for and been granted a formal leave of absence, the evaluation issued upon readmission will specify the remaining requirements for the student's specific objectives.

In view of the foregoing regulations, the student should notify the Office of Admissions immediately if he changes the objective specified in his evaluation. While the evaluation for a student remains valid, the student is held responsible for complying with all changes in regulations and procedures which may appear in subsequent catalogs.

Acceptance of Credit

Credit for work completed at accredited institutions, other than coursework identified by such institutions as remedial or in other ways as being nontransferable, will be accepted toward the satisfaction of degree and credential requirements at the university within limitations of residence requirements and community university transfer maximums.

Transfer of Credit From a Community College

Upper division credit is not allowed for courses taken in a community college. Credential credit is not allowed for courses in professional education taken in a community college. This does not invalidate credit for preprofessional courses taken at a community college, such as introduction to

education, art or design, arithmetic, or music for classroom teachers. After a student has completed 70 units of college credit at a community college, no further community college units will be accepted for unit credit.

Credit for Military Service

Students who have been in active military service for at least a year may be granted six units of undergraduate credit. Courses taken in service schools may be given credit on the basis of an evaluation which determines that they are of university level. Any credit for military experience will be given only upon request. Records verifying such experience must be filed with the Office of Admissions.

Credit for Extension and Correspondence Courses

The maximum amount of credit through correspondence and extension courses which may be allowed toward the bachelor's degree is 24 units, if otherwise applicable, of which not more than 12 may be transferred from another college or university.

Credit by Advanced Placement

Students who have successfully completed courses in the advanced placement program (defined as receiving a score of 3, 4 or 5) shall be granted credit toward graduation, advanced placement in the university's sequence courses, and credit for curriculum requirements.

Credit by Examination

Students may be granted credit for a course toward graduation and to meet curriculum requirements by the satisfactory completion of a *challenge examination* in that course requirement. The examinations are to be comprehensive and administered by the department in which the course is offered. Well in advance of the *challenge examination* the student will secure written approval of his major adviser and the chairman of the department in which the course is offered. Upon the successful completion of the examination, the notation on the permanent record of the student will be made as "CR" for the course. "CR" is to indicate credit for the course with a passing grade. Upon failure of the examination, the notation on the permanent record of the student will be made as "No CR" for the course. Credit by examination may not be used to fulfill the minimum residence requirements. The *challenge examination* for any course may be attempted only once. A maximum of 30 credits can be earned by *challenge examination*, including those achieved by advanced placement.

College Level Examination Program

Operating under an interim policy, Cal State Fullerton may grant credit and advanced standing based upon examination results from the College Level Examination Program of the College Entrance Examination Board using as minimum standards:

General Examinations

- 1. That the student achieve a score at or above the 50th percentile, college sophomore norms.
- That no unit credit be granted for any test in the general examinations, but that six units of general education requirements be waived for each test completed with the appropriate score.

Subject Examinations

- That the student submit a score at or above the 50th percentile of those in the norming group who earned a mark of C or better.
- That equivalency to Cal State Fullerton courses be determined by the appropriate academic department in conjunction with the Office of Admissions and Records.
- 3. That university credit shall have not been previously earned in the courses in question.

In no case will credit so awarded count towards residence credit.

REGISTRATION

Orientation

Various opportunities are provided for new students to obtain information relating to academic programs, student services and activities, and other aspects of university life. Information about specific programs will be published separately.

Registration

Class Schedule: A complete listing of courses offered will be found in the class schedule published prior to the start of each semester. This publication, which may be purchased in the Titan Bookstore for a nominal charge, also states detailed information pertaining to the semester including class enrollment and fee payment procedures.

It is important that each student familiarize himself not only with the academic policies stated in the catalog but also with the requirements and procedures in the class schedule as both are used in the selection of classes for the semester.

Course Selection: Cal State Fullerton believes its students have the intelligence and capability to plan their schedules each semester and to make a selection among available sections of a course. Such matters are the responsibility of the student and permit him to develop an individualized class schedule for each semester to meet the student's academic program requirements as well as his own unique personal requirements (study, work, etc.).

Course selection should be based on an adviser-approved formal academic program, course descriptions in the current catalog (including course prerequisites), and courses offered as listed in the semester class schedule. With this information each student should be able to determine courses needed, courses available, and eligibility for enrolling in them. The study list resulting from such an appraisal forms the basis for completing the official program card which is used in registration.

Registration: Registration is made up of two steps—class enrollment and fee payment. At registration, every student is required to file a program card with the Office of the Registrar. The filing of a program card by the student and its acceptance by the university obligates the student to perform the designated work to the best of his ability. All undergraduates are urged to declare a major at the earliest practicable time and not later than at the time they have completed 60 units of college work.

It is emphasized that registration does not become official until fees have been paid.

Computerized Records System

The student personnel records system, including the registration process, is computer based. This means that records and reports are produced from an information data file maintained in the university Computer Center. It is a fact of life in a large institution such as Fullerton that use of the computer is essential. Thus, there is a requirement for data cards, code numbers, student file numbers and for meeting precise criteria for data input and stringent deadlines. All of this introduces an element of the impersonal in the student records system. Despite these conditions, every effort is made to provide courteous, efficient and personalized service to students and the entire university community. To assist in providing this service, students are urged to be extremely careful and accurate in preparing data cards, especially the official program card and change of program card, for entry into the information file. Accurate input of information will assure each student of error-free records.

Late Registration

The last day to register late each semester will be announced in the class schedule. Late registrants will find themselves handicapped in arranging their programs and must pay a \$5 late registration fee in addition to regular fees.

Changes in Program

Each student is responsible for the program of courses he lists when he registers. Changes may not be made thereafter without the filing of a change of program (add-drop) form in the Office of the

Registrar following procedures announced in the class schedule.

Failure to file an official change of program request in the case of dropped classes may result in a penalty mark being recorded. Through the fourth week of instruction in the semester no record of enrollment is made of dropped classes. After four weeks students are expected to complete all courses in which they are enrolled. However, for reasons of ill health or reasons involving other serious and unforeseen problems, the student may drop a class or classes and receive a W (Withdrawal) or F (Failure) by obtaining the signature of the professor(s) involved and filing the change with the registrar on the form provided.

No classes may be dropped during the last four weeks of instruction, although complete withdrawal from the university is still possible (See page 60).

Concurrent Enrollment

A student enrolled at the university may enroll concurrently for additional courses at another institution only with advance written approval from the student's academic adviser on official forms filed in the Office of the Registrar. Permission will not be granted when the study load in the proposed combined program exceeds the units authorized at this university.

Auditors

A properly qualified student may enroll in classes as an auditor. The student must meet the regular university admission requirements and must pay the same fees as other students. An auditor may not change his registration to obtain credit after the last date to add courses to the study list. An auditor is not permitted to take examinations in the course.

Handicapped Students

Students physically handicapped who require assistance should contact the Office of the Registrar prior to the announced semester registration period so that special arrangements for them can be made.

VETERANS

Cal State Fullerton is approved by the Bureau of Readjustment Education, State Department of Education, to offer programs to veterans seeking benefits under state and federal legislation. All students seeking veterans' benefits must have a degree or credential objective.

Applications for benefits should be filed well in advance of the semester in which the veteran plans to use these benefits in order to have the authorization at the time of registration.

SELECTIVE SERVICE

Male students requiring certification of their student status may request the Office of Admissions and Records to submit the appropriate forms to their draft board.

Undergraduate students shall normally be enrolled for 12 units a semester to be considered full time. Graduate students enrolled for nine units of study may be considered full time provided at least three units are 500-level courses.

All students are advised that by enrolling each consecutive term at the minimum level to qualify for full-time certification they may not achieve the degree and credential programs within the time limit allowed by the Selective Service System.

RESERVE OFFICERS' TRAINING CORPS

Cal State Fullerton does not have a Reserve Officers' Training Corps program. However, a two-year program is available to eligible male students through cooperation with the University of Southern California where an Air Force ROTC program is conducted. For complete information, write the Professor of Aerospace Studies, University of Southern California, Los Angeles 90007.

FEE SCHEDULE, 1972-73

Tuition is not charged to legal residents of California. The following are the fees and expenses currently assessed.

All Students		
Application fee (nonrefundable) Payable by check or money order at time of applying		420
Materials and Service fee: Fewer than 4 units		Semester
At least 4 but fewer than 8 units		
At least 8 but fewer than 12 units		
12 or more units		
About the second for a new otherwise of OOK? The or should be a few of the second of t		
TOOLS THE MOVE WE STREW ON THE COME TO COME TO COME AND THE	8 units	more
Facilities fee		\$ 3
Associated Students fee		\$10
University Union fee	\$ 4	\$ 8
Nonresidents		
Nonresident tuition fee (in addition to fees required of resident sextension or summer session)		
15 or more units, maximum		
Fewer than 15 units, per unit		
Per academic year		\$1,110
Foreign-Visa Students		
Nonresident foreign-visa students (in addition to fees required of	of resident stude	nts)
15 or more units, maximum		
Fewer than 15 units, per unit		
Per academic year		
Summer Session		
Per summer semester unit		
Associated Students fee		
University Union fee		\$ 4
Extension Fees		
Per Unit or Fraction of Unit		\$19 to \$38
Other Fees or Charges		
Late registration fee (in addition to other fees listed above)		
Check returned from bank for any cause		\$2

Auditors pay the same fees as others.

Fees are subject to change by the Trustees of the California State University and Colleges without advance notice.

Refund of Fees

Upon withdrawal from the university, the materials and service fee may be refunded if written application for refund, on forms provided by the university, is submitted to the registrar not later than 14 days following the day of the term that instruction begins; provided that the amount of \$10 shall be retained to cover the cost of registration. Late registration fees, change of program fees and application fees are not refundable.

The entire fee may be refunded if a student is unable to continue his registration because of a university regulation or because of compulsory military service. Application for refund under such circumstances may be made at any time before the date when the student received any academic credit for the courses for which he is registered.

No refund of fees will be given if the unit load of the student is reduced to a lower material and service fee category.

54 Fee Schedule

Parking Fees

Semester pass (nonreserved spaces):	
Regular and limited students	\$13.00
Coin operated gate, per admission	.25
Summer session, each six-week period	5.00

Typical Student Expenses

Typical school year budgets for California residents living at home or making other housing arrangements will vary widely. It is estimated that, including an \$800 yearly allowance for room and board, the cost will approximate \$1,600. Nonresident students must also allow for nonresident tuition.





RECORDS AND REGULATIONS

ENROLLMENT DEFINITIONS AND REGULATIONS

Unit of Credit

Each semester unit represents three hours of university work per week for one semester. Courses are of three types:

- (1) Lecture—one hour in class plus two hours of study.
- (2) Activity—two hours of class plus one hour of study.
- (3) Laboratory—three hours in class.

Some courses may combine two or more of these types. All required courses carry unit credit.

Classification in the University

Undergraduate students who have completed 0–29½ semester units of work are classified as freshmen, 30–59½ semester units as sophomores, 60–89½ semester units as juniors, and 90 or more as seniors.

Maximum Number of Course Units

Undergraduate students' requests to carry units beyond 18 (19 for engineering majors) must be approved by the student's adviser and the department chairman of the major. If such requests are denied, appeals may be made to the appropriate school dean. Undeclared majors must receive the approval of the director of academic advisement to carry over 18 units of work. The *minimum* full-time load is 12 units.

A student whose academic record justifies a study list in excess of the normal may request to be allowed to carry extra units. Request forms may be obtained from the Office of the Registrar and are submitted during the first week of instruction. In general, only students with superior academic records are allowed to enroll for more than the maximum unit load. In addition, the need to carry an overload must be established. Factors such as time spent in employment or commuting, the nature of the academic program, extracurricular activities and the student's health should be considered in planning a study load. Students who are employed or have outside responsibilities are advised to reduce their program of study.

The minimum full-time program of study for graduate students is defined in the "Graduate Policies and Procedures" section of this catalog.

Initial Class Meeting

It is important that students attend the first meeting of a class. In closed classes students who are absent from the first meeting without notification of the instructor or departmental office within 24 hours may be denied admission to the class. Instructors are privileged to deny admission to absentees in order to admit any persons on waiting lists in their places. Students who are denied admission to class must file a drop request card with the Office of Admissions and Records.

Undergraduate Students Taking Graduate Level Courses

Graduate level (500) courses are organized primarily for graduate students. Undergraduate students may be permitted to enroll in a graduate level (500) course if:

- 1. They are within nine units of completion of graduation requirements, or
- They are exceptionally qualified seniors whose undergraduate work in the related field or fields has been of 3.5 grade-point average or better, and whose cumulative overall grade-point average is at least 3.25.

Such cases shall require specific approval by the instructor and also chairman of the department or dean of the school in which the course is offered and by the chairman or dean of the student's major department or school.

Graduate level (500) courses taken under 1. above may be applied to a graduate program if approved under graduate studies policies.

Graduate level (500) courses taken under 2. above may be applied to the undergraduate program only.

GRADING POLICIES

Grading System

Satisfactory grade	Grade-point value
A	. 4
В	. 3
C	. 2
CR	None assigned
Unsatisfactory grade	
D	1
F	. 0
Special Grade	
E (Incomplete)	. 0
AU (Auditor) (no credit toward degree or credential)	. None assigned
W (Passing withdrawal)	. None assigned

The following chart illustrates the academic bookkeeping involved for the marks of A, B, C, D, F, NR, CR and NC.

NR (No report).....

Mark	Units Attempted	Units Earned	Grade Points	Full Credit
A, B, C	Yes	Yes	Yes	Yes
D	Yes	Yes	Yes	No, must balance with B or better
F	Yes	No	No	No
NR (No Report)	Yes	No	No	No
Credit (CR)	No	Yes	No	Yes
No Credit (NC)	No	No	No	No
Totals	Used	Counted	Used	noused sentitionally
	in	toward	in	
	GPA	objective	GPA	

No Report

The special grade of NR (No Report) normally is assigned to a student by a professor where there is no clear record of class participation on the part of the student or sufficient data for evaluation are lacking. Units attempted are charged to the student's record but may be later deducted through administrative action.

Incomplete Work

A grade of E may be given only when, in the opinion of the instructor, a student cannot complete a course during the semester of enrollment *for reasons beyond his control*. Such reasons are assumed to include: illness of the student, or of members of his immediate family, extraordinary financial problems, loss of outside position, and other such exigencies. In assigning a grade of E, the instructor will file with his department a statement of the specific requirements for completion of coursework. Such requirements will not include or necessitate retaking the course. This statement will also include a provisional grade indicating the quality of work completed at that time, and the instructor's designation of the time limit allowed for completion of course requirements. Upon later completion of the course requirements, or upon expiration of the time limits for completion of course requirements, the instructor shall initiate a change to a grade of A, B, C, D, CR, NC or F. Instructional departments will determine procedures for completion of course requirements and assigning grades

for such completed coursework, in those special circumstances where the instructor is no longer available.

Credit/No Credit

Each student shall be permitted to select courses in subjects outside of the major requirements on a Credit/No Credit basis. For purposes of Credit/No Credit, the phrase "major requirements" can be taken to include core plus concentration (or option) requirements in departments using such terms, and professional course requirements in teacher education curricula.

The term "Credit" signifies that the student's performance in the course was such that he was awarded full credit toward his degree objective without comment as to the quality level of achievement and without further qualification. "No Credit" signifies that the student attempted the course but that his performance did not warrant credit toward his objective. The level of work for which a "Credit" grade will be given will be determined by the individual professor for each class. However, the level of performance required for a CR grade will be no higher than that now required for satisfactory work. At the beginning of each class, the professor will thoroughly explain the amount and level of work required for a CR grade.

The student must declare his intention to take a course on a Credit/No Credit basis when he registers. Under no circumstances will he be permitted to change his declaration after the first week of classes in any given semester. Any student attempting a course on a Credit/No Credit basis must meet the prerequisites for that course.

The policy of Credit/No Credit applies to undergraduate students, non-objective graduate students, and to classified graduate students for courses not included in the approved study plan.

When a student changes his major field of study to one where he has completed courses on a credit basis, such lower division courses shall be included in his major requirements. Upper division courses may be included at the option of the department.

Grade Reports to Students

A report of the final grades assigned in classes is sent to each student at the end of each semester. Many students also leave self-addressed post cards for teachers of specific courses to send them slightly faster evaluations of their work.

Examinations

Final examinations, if required by the instructor, will be given at times scheduled by the university. Once established, the final examination schedule may not be changed unless approved by the dean of the school. No makeup final examination will be given except for reason of illness or other verified emergencies.

Grade-Point Averages; Repetition of Courses

Grade-point averages are calculated by dividing grade points earned by units attempted. Work attempted at all institutions, including Cal State Fullerton, is included in all-college calculations. Work attempted at other institutions will not be included in Cal State Fullerton-only averages.

When any course is repeated both grades are considered in computing grade-point averages. However, successful repetition of a course originally passed carries no additional unit credit towards a degree or credential.

TRANSCRIPTS

Official transcripts of courses taken at the university are issued only with the written permission of the student concerned. Partial transcripts are not issued. A fee of \$1 for each transcript issued must be received before the record can be forwarded.

Normally transcripts are available within three working days, except at the end of the semester when the student should allow about 10 days after the last day of the semester.

Transcripts from other institutions, which have been presented for admission or evaluation, become a part of the student's permanent academic file and are not returned or copied for distribution. Students desiring transcripts covering work attempted elsewhere should request them from the institutions concerned.

CONTINUOUS RESIDENCY REGULATIONS

Good Standing

"Good standing" indicates that a student is eligible to continue and is free from financial obligation to the university. A student under academic disqualification, disciplinary suspension or disciplinary expulsion is not eligible to receive a statement of "good standing" on transcripts issued by the university or on other documents.

Choice of Catalog Regulations for Meeting Degree Requirements

A student remaining in continuous attendance in regular sessions and continuing on in the same curriculum in any California State University or College, in any of the California community colleges or in any combination of California community colleges and the California State University and Colleges, may, for purposes of meeting graduation requirements, elect to meet the graduation requirements of the California State University or College from which he will graduate in effect either at the time of his entering the curriculum or at the time of his graduation therefrom, except that substitutions for discontinued courses may be authorized or required by the proper college authorities.

Continuous Enrollment for Graduate Students

A graduate student with a degree objective is expected to maintain continuous enrollment in the university (summer sessions and extension excluded) until completion of the degree. If a student pursuing an advanced degree finds it impossible to attend during a certain semester, and is not eligible for a leave of absence, as detailed elsewhere in this catalog, he may request permission to register in Graduate Studies 700, a Credit/No Credit course with no units credit, which does not require class attendance. A student may not register in Graduate Studies 700 for more than two consecutive semesters.

If a graduate student who has completed student teaching and is pursuing a standard elementary or secondary teaching credential finds that he cannot enroll in courses leading to the credential during a certain semester, he may enroll in Credential Studies 701. This course is a credit/no credit course with no unit credit, which does not require class attendance. Students may not enroll in Credential Studies 701 for a third consecutive semester.

A graduate student who fails to register has severed his connection with the university.

Leave of Absence

A student may petition for a leave of absence and if approved may upon his return continue under the catalog requirements that applied to his enrollment prior to the absence. Except in the case of required military service a leave of absence may be granted for a maximum of one year. Illness and compulsory military service are the only routinely approved reasons for a leave of absence. Students should realize that an approved leave of absence does not reserve a place for them in the university.

Complete Withdrawal from the University

Students who wish to withdraw from the university must complete a withdrawal-from-university card. See section on refund of fees for possible refunds. No student may withdraw after the date shown on the university calendar as the last day of instruction. Complete withdrawal from the university is accomplished by following the procedures for dropping classes (see Change of Program) in addition to procedures for withdrawal.

STUDENT HONORS

Dean's List

Academic achievement is recognized with the publication each semester of a list of students whose grade-point average for the previous term has been 3.5 or better. Students are notified in writing when they have earned this distinction. Eligibility is based on a minimum of 12 units of coursework.

Honors at Graduation

Honors at graduation have been defined by the Faculty Council in three classifications:

With honors	GPA 3.5
With high honors	GPA 3.85
With highest honors	GPA 4.0

PROBATION AND DISQUALIFICATION

Academic Probation

Academic probation serves to identify and to bring to the attention of appropriate university authorities a student who is experiencing academic difficulties.

A student shall be placed upon academic probation if either his cumulative grade-point average or his grade-point average at Cal State Fullerton falls below 2.0 (grade of C on five-point scale). The student shall be advised of probation status promptly and, except in unusual instances, before the end of the first week of instruction of the next consecutive enrollment period.

A student shall be removed from the probation list and restored to clear standing when he earns a cumulative grade-point average of 2.0 (C) in all academic work attempted, and in all such work attempted at Cal State Fullerton.

Academic Disqualification

A student on academic probation shall be subject to academic disqualification if:

- 1. As a lower division student (fewer than 60 semester hours of university work completed) he falls 15 or more grade points below a 2.0 (C) average on all university units attempted or in all units attempted at this institution.
- As a junior (60 to 89½ semester hours of university work completed) he falls nine or more grade
 points below a 2.0 (C) average on all college units attempted or in all units attempted at this
 institution.
- As a senior (90 or more semester hours of college work completed) he falls six or more grade
 points below a 2.0 (C) average on all university units attempted or in all units attempted at
 this institution.

A graduate student (unclassified or classified) shall be disqualified if he falls below a 2.0 (C) average in all units attempted at this institution as a graduate student.

Student Conduct

The university properly assumes that all students are in attendance to secure a sound education and that they will conduct themselves as mature citizens of the campus community. *Compliance with all regulations of the university is therefore expected.* If, however, on any occasion a student or an organization *is alleged to have compromised accepted university policies or standards, appropriate judiciary procedures shall be initiated through the established university judicial process.* Every effort will be made to encourage and support the development of self-discipline and control by students and student organizations. The dean of students, aided by all members of the faculty and advised by the Student Affairs Committee of the faculty, is responsible to the President of the university for the behavior of students in their relationships to the university. The President in turn is responsible to the Chancellor and the Trustees of the California State University and Colleges who themselves are governed by specific laws of the State of California.

Students have the right to appeal certain disciplinary actions taken by appropriate university authorities. Regulations governing original hearings and appeal rights and procedures have been carefully detailed to provide maximum protection to both the individual charged and the university community. Information about the operation of the judicial system involving student discipline may be obtained in the Office of Judicial Affairs.

Debts Owed to the University

From time to time the student may become indebted to the university. This could occur, for example, when the student fails to repay money borrowed from the university. Similarly, debts occur when the student fails to pay library fees, or when the student fails to pay for other services provided by

the university at the request of the student. Should this occur, Sections 42380 and 42381 of Title 5 of the California Administrative Code authorize the university to withhold "permission to register, to use facilities for which a fee is authorized to be charged, to receive services, materials, food or merchandise or any combination of the above from any person owing a debt" until the debt is paid. For example, under these provisions the university may withhold permission to register, and may withhold other services such as grades and transcripts. If a student feels that he or she does not owe all or part of a particular fee or charge, the student should contact the business office.

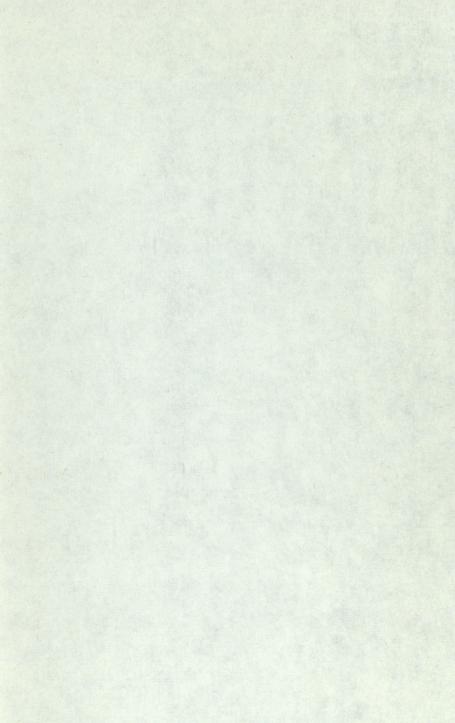
RIGHT OF PETITION

Students may petition for review of certain university academic regulations when unusual circumstances exist. It should be noted, however, that academic regulations when they are contained in Title 5. California Administrative Code, are not subject for petition.

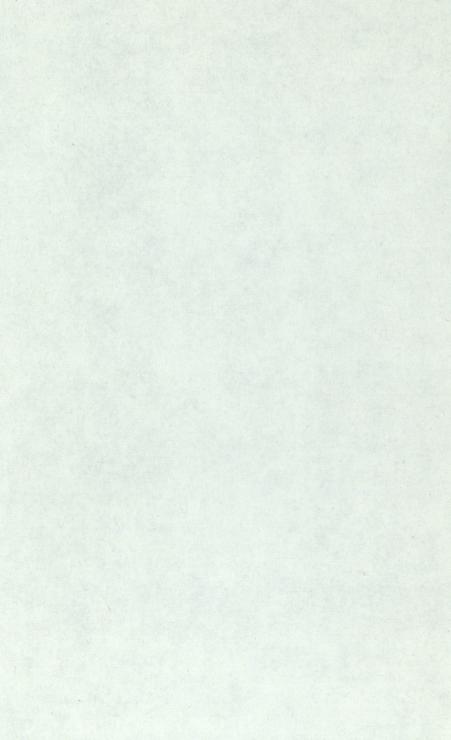
Petition forms are available in the Office of Admissions and Records and must first be reviewed and signed by the student's adviser. Action will then be taken on the petition and the student will be notified of this decision. A copy of the action will also be placed in the student's folder in the Office of the Registrar.

RIGHT OF ACADEMIC APPEAL

The student who believes he has been graded capriciously or treated with obvious prejudice by faculty or administrators may initiate steps for an academic appeal. In all cases the student should first make an effort to resolve the issue by consulting the faculty or administrator concerned. If the issue cannot be resolved the student should consult with the dean of students or director of judicial affairs.







GRADUATION REQUIREMENTS FOR THE BACHELOR'S DEGREE

A student is eligible for graduation if he is in good standing and fulfills the following requirements:

1. General Education

To be eligible for a baccalaureate degree from Cal State Fullerton, the student shall have completed a minimum of 45 semester units of general education courses selected in accordance with the pattern designated below. Such courses may be lower division courses or upper division courses for which the student qualifies.

I. Natural Sciences Minimum: nine units

The student shall select a minimum of two courses, one from each of two fields which shall include the following: biological sciences, chemistry, earth sciences, physics and physical science.

II. Social Sciences Minimum: nine units

The student shall select a minimum of three courses, one from each of three fields which shall include the following: anthropology, economics, geography, history, political science, psychology and sociology.

Note: Of the courses taken to meet the requirements in U.S. history, Constitution, state and local government (California Administrative Code, Section 40404), a maximum of three units may be applied for credit in Section II.

III. Arts—Humanities Minimum: nine units

The student shall select a minimum of three courses, one from each of three fields which shall include the following: art, drama, language (English, intermediate or advanced courses in foreign languages), literature (American, comparative, English, foreign), music, philosophy and speech.

IV. Basic Subjects Minimum: nine units

The student shall select a minimum of three courses, one from each of three fields which shall include the following: computer science, elementary foreign languages, health education, mathematics, oral communication, physical education, reading, statistics and writing.

V. General Education Electives

The student may fulfill any remaining units required for general education by selecting any undergraduate course offered by the university for credit except courses which apply to the student's major or credential program. Transfer students certified under provisions of California Administrative Code, Title V, as having met the 40-unit minimum general education requirements will be required to complete five additional units in general education selected from two or more sections, I - V above.

2. Statutory Requirements in American Institutions and Values

In addition to general education-breadth requirements California Administrative Code, Section 40404, states that for graduation the student is required "to demonstrate competence in the Constitution of the United States, and in American history including the study of American institutions and ideals, and of the principles of state and local government established under the Constitution of this state." To meet this requirement, the student may select the following alternatives: (1) pass a comprehensive examination in these fields, (2) pass Political Science 100 and a course in U. S. history, 3) pass a combination of Political Science 300 and History 170A or 170B. Coursework completed to satisfy Section 40404 may be applied in the social sciences area of general education to a maximum of three units.

3. Electives

After fulfilling the requirements in general education, American institutions and values, and a specific major (and possibly a minor), each student is free to choose the rest of the courses needed to complete the 124 semester units required for graduation. Different majors vary considerably in both the number of units they require in their own and related fields. They also vary considerably in the amount of latitude or choice they permit in selecting courses to satisfy the major requirement. The general education requirement encourages great freedom of choice within the broad categories of the natural sciences, social sciences, arts and humanities, and basic subjects. Students at the university use their electives to broaden their general educations, deepen some aspect of their specialties, pursue work in related fields, and satisfy curiosities and enthusiasms for particular subjects or areas of interest.

4. Units

(a) Total units

A minimum of 124 semester units is required for graduation with a bachelor of arts degree. The Bachelor of Science in Engineering requires a minimum of 132 semester units.

(b) Upper division units

Completion of a minimum of 40 units of upper division credit is required.

(c) Resident units

Completion of a minimum of 24 semester units in residence is required. At least one-half of these units must be completed among the last 20 semester units counted toward the degree. Extension credit, or credit by examination, may not be used to fulfill the minimum residence requirement.

5. Scholarship

- (a) A grade-point average of 2.0 or better is required on all units attempted, including those accepted by transfer from another institution.
- (b) A grade-point average of 2.0 or better is required on all units in the major.
- (c) A grade-point average of 2.0 or better is required on all units attempted at California State University, Fullerton.

6. Major

Completion of all requirements for a major as specified by appropriate university authority is required.

7. Multiple Majors and Second Baccalaureate Degrees

Second majors

Within the units required for the baccalaureate it is possible for a student to complete the requirements for more than one major within a degree program when the additional major is within the degree program for the first major. The student shall declare the additional major with the appropriate department not later than the beginning of the student's final year of study. The completion of additional majors will be noted at the time of graduation by appropriate entries on the academic record and on the commencement program.

Second baccalaureate

- (a) First degree completed elsewhere, second at Cal State Fullerton Students seeking a bachelor's degree from Cal State Fullerton after having received a baccalaureate from another institution may qualify for graduation with the approval and recommendation of the faculty upon completion of the following:
 - (1) general education requiremments
 - (2) all requirements in the major field of study
 - (3) residence and scholarship requirements
- (b) Two baccalaureates from Cal State Fullerton

A student completing a baccalaureate program at Cal State Fullerton will have completed the general education, residence, and scholarship requirements. With the approval and recommendation of the faculty, he may qualify for a second baccalaureate under the following circumstances:

- (1) The second field of study is offered in a different program (e.g. bachelor of arts to bachelor of science)
- (2) At least 24 units are earned in residence beyond the requirements for the first degree
- (3) All requirements of the major are fulfilled Units included in second baccalaureate programs may not apply to graduate degrees or credential programs.

8. Minor

Completion of a minor field is not required for the baccalaureate degree at this time.

9. Graduation Requirement Check

A candidate for graduation should file an application for a graduation requirement check in the Office of the Registrar during registration for the semester prior to the semester in which he expects to graduate (please refer to the current schedule of class for the deadlines applied to requesting and returning graduation checks). A senior should have completed at least 100 units (including the current work in progress) and a substantial portion of his major requirements before requesting a graduation check. If the candidate does not complete the requirements in the semester indicated, he must file a change of graduation date in the Office of the Registrar. The original graduation check is valid as long as a student is in continuous attendance and is completing the major under which the graduation check was requested.

10. Approval and Recommendation by the Faculty of the University

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THE PROGRAM OF MASTER'S DEGREES

Master's degree programs offered at Cal State Fullerton are listed on page 89 and are described in the appropriate section of this catalog under "University Curricula." Program descriptions and additional information are contained in the *Graduate Bulletin*, copies of which are available in the Office of Admissions and the Graduate Office.

Master's degrees in other areas are under consideration and will be announced when approved.

STANDARDS FOR GRADUATE STUDY

Graduate study deals with more complex ideas and demands more sophisticated techniques, searching analysis, and creative thinking than undergraduate study. The research required is extensive in both primary and secondary sources and the quality of writing expected is high. The student is advised to consider these factors when deciding upon the amount of coursework to be undertaken during any one semester.

GENERAL REQUIREMENTS FOR THE MASTER'S DEGREE

General requirements for the master's degree include a study plan consisting of a minimum of 30 semester units of approved upper division and graduate (500-level) coursework taken after the baccalaureate and completed with a 3.0 (B) minimum grade-point average. The coursework should normally be completed within five years (see "Time Limit for Completion"). For specific requirements of particular programs, please see the descriptions elsewhere in this catalog.

In the degree program:

- 1. Not less than 24 semester units shall be completed in residence.
- 2. Not less than 15 semester units shall be in graduate (500-level) courses.
- 3. Not more than six semester units shall be allowed for a thesis if a thesis is required.
- 4. Six shall be in related fields outside the department or concentration.

Some type of final evaluation, near the end of the student's work toward his master's degree, is required. It may be a thesis, a project, a comprehensive examination, or any combination of these. Each student's program for a master's degree (including his eligibility, classified status, candidacy, and award of the degree) must be approved by the school or department adviser, and/or graduate program adviser, the school or department committee, and the dean of graduate studies.

GRADUATE REGULATIONS

The following are in addition to other policies and procedures applying to both undergraduates and graduates described elsewhere in this catalog and in the appropriate class schedule. Requirements of individual programs are shown in the appropriate sections of this catalog. Also, individual schools and departments may have established particular rules governing programs offered.

Students are advised to consult the *Graduate Bulletin* for detailed instructions concerning steps in the master's degree program. It is the student's responsibility to initiate the requests for classified status, advancement to candidacy, and for a graduation check at the appropriate times. The deadline for requesting the graduation check appears in the official calendar for each semester.

Since all policies and procedures are subject to change, by appropriate authority, students should consult class schedules and other official announcements for possible revision of policies and procedures stated herein.

Admission With Graduate Standing: Unclassified

For admission with graduate standing as an unclassified graduate student, a student shall have completed a four-year college course and hold an acceptable baccalaureate degree from an accredited institution; or shall have completed equivalent academic preparation as determined by the appropriate authorities; and must satisfactorily meet the professional, personal, scholastic, and other standards for graduate study, including qualifying examinations, as the appropriate authorities may prescribe.

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Admission with unclassified graduate standing does not constitute admission to a graduate degree program. Duration of unclassified graduate standing may be determined by appropriate authority.

Admission to Graduate Degree Curricula: Classified

A student who has been admitted in unclassified graduate status may, upon application to the dean of graduate studies and recommendation by the appropriate school or department authorities, with subsequent approval by the dean of graduate studies, be admitted to an authorized graduate degree curriculum as a classified graduate student. He must satisfactorily meet the professional, personal, scholastic, and other standards for admission to the graduate degree curriculum, including qualifying examinations, as the appropriate authorities may prescribe. Only those applicants who show promise of success and fitness will be admitted to graduate degree curricula, and only those who continue to demonstrate a satisfactory level of scholastic competence and fitness, as determined by the appropriate authorities, shall be eligible to continue in such curricula. Students whose performance in a graduate degree curriculum is judged to be unsatisfactory may be required to withdraw from all graduate degree curricula offered.

Advancement to Candidacy

A student who has been classified (as above) may, upon application and with subsequent approvals, be advanced to candidacy, following the satisfactory completion of a minimum of 12 units of coursework on the approved study plan. A minimum grade-point average of 3.0 in all coursework on the study plan is required; other scholastic, professional and personal standards, the passing of examinations, and other qualifications, may be prescribed.

Admission From Nonaccredited Schools

A student who is a graduate of a nonaccredited school must apply for admission as an undergraduate to complete requirements for a bachelor's degree from this institution. However, once admitted, a student in this category who gives evidence of unusual promise and superior background may petition the school or department concerned for reclassification as an unclassified graduate student, and if the petition is granted he may then proceed in the graduate program.

Residence Requirement

A student is considered to be in residence when registered during regular semesters. Of the minimum of 30 semester units of approved coursework required for the master's degree, not less than 24 shall be completed in residence. Credit in summer sessions may be substituted for regular session unit requirements on a unit for unit basis. Extension credit or credit by examination may not be used to fulfill the minimum residence requirement and is not normally acceptable as part of the six units of approved transfer work permitted.

Election of Curriculum Requirements

A student remaining in continuous attendance in regular sessions and continuing in the same curriculum may elect to meet the degree requirements in effect either at the time of his classification or at the time of the completion of degree requirements, except that substitutions for discontinued courses may be authorized or required by the proper authorities.

Continuous Enrollment

A graduate student with a graduate degree objective is required to maintain continuous enrollment during regular semesters (summer sessions excluded) until award of the degree. Enrollment in extension classes does not satisfy this requirement.

A graduate student who fails to register has severed his connection with this institution and with the school or department of his graduate degree program. If he wishes to resume his studies, he must reapply for admission to Cal State Fullerton and to his degree program. The policy is designed to eliminate the need for readmission, provide opportunity for continuous use of facilities, including the Library, and assure the development of an integrated program, adequately supervised, and effectively terminated within the time limitations allowed by regulations.

Students who may have completed all coursework, but who may not have satisfactorily completed a comprehensive examination or other requirement, must maintain continuous enrollment.

If a student pursuing an advanced degree finds it impossible to attend during a certain semester, he

may request permission to register in Graduate Studies 700, a credit/no credit course with no units of credit, which does not require class attendance. Registration in Graduate Studies 700 will normally be restricted to graduate students who have been classified or who are in a prescribed prerequisite program for a specific graduate degree. A student may not register in Graduate Studies 700 for a third consecutive semester.

Applicability of Courses Taken During Summer Sessions

Cal State Fullerton normally conducts two six-week summer sessions. Appropriate courses taken during the summer sessions may be applied to a graduate degree program, providing the courses are approved *in advance* by the proper authorities. Since the funding of graduate work during the summer months does not include the necessary advisement and supervision, appropriate advisers and committees may not be available.

It should be noted that enrollment in a summer session does not constitute admission to this institution (matriculation). Any student desiring a master's degree must be admitted to a regular semester (fall or spring) and is expected to be enrolled continuously until award of the degree (see "Continuous Enrollment").

Grade-Point Average Standards

The required GPA for *admission* to a master's degree program (classified status) varies, depending upon the particular program. Consult school or department descriptions of programs elsewhere in this catalog and in the *Graduate Bulletin*. However, a student must have earned a 3.0 average in all postbaccalaureate coursework taken at this university plus such transfer courses as are applied to his study plan. Exception to this rule may be granted by a school or department in response to a student petition only if it is evident that courses whose grades are not to be computed in the GPA are inapplicable and inappropriate to the degree program.

The 30 semester units of approved coursework required for the degree must be completed with a 3.0 (B) minimum grade-point average. If a student approaches the completion of the degree requirements with less than a 3.0 average, he may request a change in his study plan to add no more than six units of coursework in order to achieve at least a 3.0 average (see "Changes in Study Plan," as follows). If a student's average at any time falls below such a level that it cannot be raised to a 3.0 within the prescribed limits of coursework, he has in effect withdrawn himself from his master's program.

Students applying for admission and declaring the objective of a Master of Business Administration are required to submit the test scores from the Admission Test for Graduate Study in Business (Educational Testing Service).

Students declaring other graduate degree objectives will not be required to submit test scores for admission. However, test scores are required for admission to classified status in many of the master's degree programs. See program descriptions in this catalog for the types of tests required.

The Graduate Record Examinations are nationally administered and are given only a few times a year on specified dates. A current list of these dates is available at the Office of Counseling and Testing, school and department offices and the Graduate Office. The student must make written application for the tests on a form available at the above offices which must be submitted to the particular testing service office by the applicable deadline. Since test results are measured against those of students who normally take the tests in their senior year and since they are required before the student can become a classified student, the taking of the tests should not be deferred.

Limitation on Preclassification Coursework

No more than nine units of postgraduate work taken at Cal State Fullerton prior to classified status may be applied to a student's master's degree study plan. Any acceptable transfer work is excluded from the nine units permitted. Students who receive postgraduate credit for courses taken during their final semester as a senior may accumulate as many as 12 units.

Inapplicable Courses

Courses numbered 100 to 299 and in the 700 series cannot be applied toward a master's degree. Courses numbered 300 to 399 do not give graduate credit unless included on an approved graduate study plan.

Courses taken to meet baccalaureate degree requirements, or postgraduate coursework taken to

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satisfy quantitative or qualitative deficiencies cannot be applied toward a master's degree. Credit by examination is not acceptable.

Workshop, extension, and institute coursework offered either at this institution or by other colleges or universities is not normally acceptable as part of a master's degree study plan. A student who desires to utilize such coursework must obtain approval from the school or department faculty adviser, and/or graduate adviser, the graduate committee, and from the dean of graduate studies. When such coursework has been taken elsewhere, the student should provide evidence that the college or university concerned would consider such coursework acceptable toward a comparable graduate degree. Any such courses offered by other institutions, but which are not acceptable for their own graduate degrees, may not be accepted by this university for a graduate degree.

Also see the sections following on "CR, S or P Grades" and "Time Limit for Completion."

CR, S or P Grades

Any course taken at this university with a grade of CR, P, S or similar cannot be accepted on a master's degree study plan.

A course taken at another college or university with a grade of CR, P, S or similar cannot be accepted on a master's degree study plan unless such a course with such a grade is acceptable at that college or university for a graduate degree.

Declassification

Graduate students in classified graduate status may be declassified upon the recommendation of the school and/or department, reverting to unclassified status, when one or more of the following conditions exist:

- 1. The student's request for declassification is approved by his graduate committee.
- 2. The student fails to maintain the grade-point average required in the master's degree program.
- The student's professional performance is judged to be unsatisfactory by other criteria established by the school or department.
- 4. The student fails to petition for an extension of the time limit.

Time Limit for Completion

All coursework on the master's degree study plan should normally be completed within five years, except that, upon petition to the Graduate Office, two additional years may be allowed. The university, at its option, may further extend the time for students who pass a comprehensive examination in the relevant course. Requests to take such comprehensive examinations should be made to school or department graduate studies committees.

When an examination is administered, a report of successful completion will be made to the dean of graduate studies. The grade received on the original course will be used on the master's degree study plan, rather than the CR grade used for challenge examinations.

The following shows the dates of expiration of courses according to the five-year limitation:

Courses taken in	Will expire in
1967	1972
1968	1973
1969	1974
1970	1975
1971	1976
1972	1977
1973	1978

The five-year period is computed as being the time between the actual date of completion of the earliest course and the month the degree is granted.

Changes in Study Plan

The student must complete the courses shown on his approved study plan on file in the Graduate Office and in the school or department office with at least a 3.0 (B) grade-point average. If a student wishes to make a change in his study plan, he should file the appropriate form (copies available in the Graduate Office, schools and departments) in the school or department of his master's degree

prior to registration. The recommendation for a change must be signed by his adviser. No course for which a grade has been assigned may be removed from a study plan.

Minimum Full-Time Course Load

Ordinarily, nine units of coursework a semester shall constitute a minimum full-time program for graduate students, provided at least three units are in 500-level or higher courses.

Maximum Course Unit Load

Twelve units is considered to be a maximum course load for graduate students, but, on the approval of an adviser, in exceptional cases, a student may take more.

Theses and Projects

When a thesis is required, the approved original copy, in the approved binding, and a microfilm of it, must be deposited in the Library. An abstract, of not more than 150 words, must accompany the thesis, and will be published in the journal, *Master's Abstracts*. Arrangements for the binding, microfilming and publication of the abstract must be completed by the last day of classes of the semester in which the degree is to be granted and are made through the Titan Bookstore. The current fee (subject to change) for microfilming, publication of the abstract, and the archival copy is \$20. The fee (subject to change) for binding is \$8.50, plus \$1 for postage.

When a project is required, it will be filed with the school or department of the degree program. Some record of the project, or the project itself, is preserved in the school or department and, when appropriate, in the Library. When the school or department recommends, a project or its written record may be treated as a thesis.

The thesis and where appropriate the project must conform in matters of style and format to the rules in "Thesis Procedures and Regulations," duplicated instructions available in school or department offices, the Graduate Office, and the Library Reference Room. Since adherence to these rules must be checked and approved, and valuable assistance can be given with problems associated with illustrations, etc., students are advised to consult the Library adviser (in the Reference Room) well in advance of the final typing of the thesis. In addition, schools and departments have adopted particular form books and/or style sheets, which are to be followed in matters of documentation and bibliography (consult Graduate Office, or appropriate school or department).

It is the student's responsibility to become acquainted with the appropriate rules and regulations and to make all necessary arrangements for the typing of the thesis, including instruction of the typist, if other than himself. Adequate time should be allowed for reading and criticism by the adviser, the committee members, and the librarian, for revisions, as needed, and for completion of the final edition of the thesis, including approvals.

The deadline for submission of the completed thesis to the adviser and committee is six weeks in advance of the last day of classes of the semester in which the student hopes to be awarded the degree, unless other arrangements are made with the school or department. The deadline for depositing the approved original copy of the thesis in the Titan Bookstore and making the arrangements for binding, microfilming and publication of the abstract, is the last day of classes of the semester in which the degree is to be awarded. If a student's program requires a thesis, or if the project has been determined to be regarded as a thesis, the master's degree cannot be awarded unless the notification that the student has completed this final step is received by the dean of graduate studies.

Graduate Assistantships, Fellowships, and Financial Aids

There are a limited number of appointments as graduate assistants available to outstanding graduate students who are working in graduate degree programs. These may pay up to \$1,250 per semester. If interested, consult the chairman of the department in which degree study is being taken. Teaching fellowships are not currently available.

The State of California each year awards a certain number of graduate fellowships (payment of fees only). Qualified students who are residents of California may make application for these through the Financial Aid Office.

For information concerning other financial aids and part-time placement services, see pages 32 and 35, respectively.

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International Study

Cal State Fullerton participates in the California State University and Colleges' program of study abroad. Under this program, limited studies taken at designated foreign universities, when arranged in advance, may be applied toward the requirements of a degree awarded by Cal State Fullerton. It is important that plans be completed several months before starting such a program. For details consult the foreign student adviser.

Second Master's Degree

A graduate student desiring to work for a second master's degree at Cal State Fullerton must request permission from the school or department concerned and the Graduate Council in order to apply for admission for a second master's degree program (in unclassified status). If the request is granted, the student must as a minimum satisfy all prerequisites and all requirements of the new degree program. Approval of classified status for the second degree will be given only after the first degree has been awarded.

Postgraduate Credit

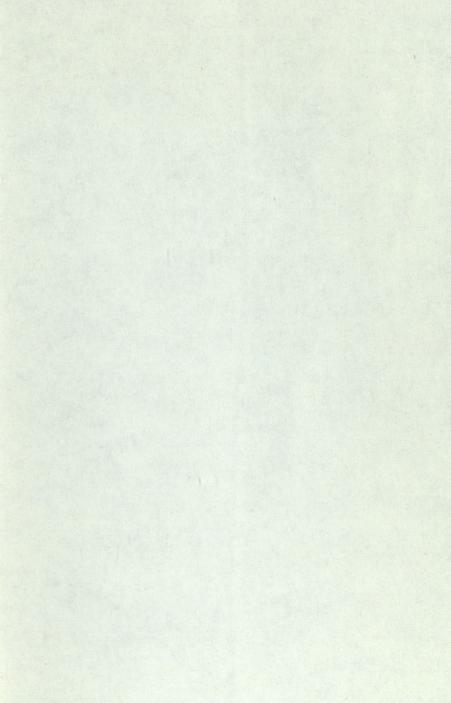
If a graduate student has not, while an undergraduate, received permission to consider coursework which was not required for the baccalaureate as postgraduate, he may petition for such credit to be granted retroactively. Petitions for postgraduate credit are filed in the Office of Admissions and Records.

If approval is given by the appropriate school or department graduate adviser and university committees, such coursework may be included as a part of the student's study plan, within existing regulations concerning applicable coursework and requirements for the degree. See "Inapplicable Courses."

Enrollment in 500-Level Courses by Seniors

Under certain circumstances, a senior may take a 500-level course. If he *is not* within nine units of graduation, he may not receive postgraduate credit for such courses. He must have a minimum grade-point average of 3.25 overall and of 3.5 in the field or fields of his intended graduate program, and the specific approval of the chairman of the department or dean of the school in which the course is offered and the chairman or dean of the student's major department or school.

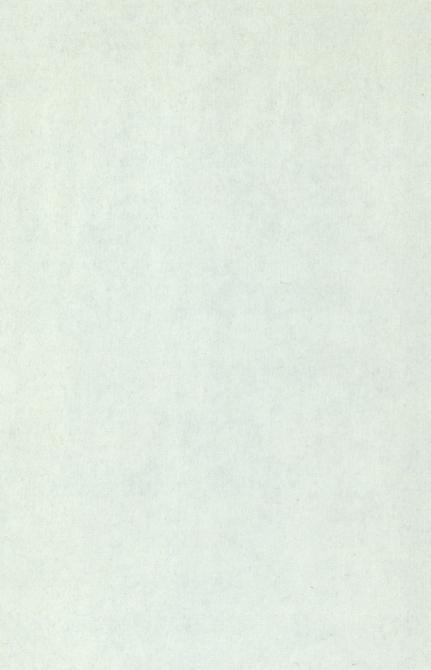
If he *is* within nine units of completion of graduation requirements and if he has the approval of the appropriate chairmen or deans, as above, he may petition for postgraduate credit for these units as provided under "Postgraduate Credit."





ACADEMIC ADVISEMENT

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ACADEMIC ADVISEMENT

Choosing an Undergraduate Major

Every student is expected to choose a major or field of concentration by the beginning of the junior year. The majors currently offered at this university are described in the next sections of this catalog. Most major requirements allow students the freedom to take a number of courses in fields other than in their majors or closely related fields.

Lower division students who are uncertain about their primary vocational goals or educational interests may, and probably should, enroll as undeclared majors. Then, and during their freshman and sophomore years, such students should explore the possibilities open to them that will meet their interests and potentialities. To help students in their searching and selecting, the university has available a number of useful resources: an Office of Academic Advisement; orientation programs that are given every year; a variety of counseling and testing services provided by the Counseling and Testing Centers; and the different department and school offices for information and advice on particular fields, their programs of study and later work opportunities. There also is a collection of college and university catalogs available in the Library. Additionally, there are a growing number of student organizations on the campus that are organized in terms of disciplinary and professional interests. The Placement Center also has much useful information on vocations and specific work opportunities.

Most students have general ideas about some subjects in which they might like to major, and almost all students are aware of the fields in which they do not wish to major. The task of selecting a major (and often a minor or other complementary specialization) then becomes one of crystallizing these earlier ideas on the basis of experiences in specific courses, discussions with other students and faculty, etc. Before commitment to a specific major, students should be sure that they have not rejected a field of study because of some wrong preconceptions or inaccurate information. Students also should not overlook interests and potentialities that they previously may not have discovered. The option of taking a limited number of courses on a Credit/No Credit basis often will be helpful in these pursuits.

Students, however, must be very careful to plan freshman or sophomore programs which will permit their entering or taking advanced courses in fields they think they may want to be their majors. Such students should check such major requirements as mathematics, chemistry, foreign language, etc. which must be taken before the junior year or perhaps even begun during the freshman year. Students anticipating graduate or professional study in a certain field should exercise special care in planning their undergraduate programs, and they should seek faculty counseling in the fields concerned. Such choices do not have to be made during the first two years, and may or may not be made during the second two. However, careful and advance examination of the possibilities of graduate or professional study often will be helpful to students who have fairly clear ideas of the educational and vocational objectives they would like to seek.

Students also should be careful about concentrating so heavily in a particular field that they cannot change majors to a different field should they wish to do so. A growing number of our students come to the campus with no clear idea of the field in which they would like to major. Such students, and others whose goals and objectives have not yet firmly crystallized, will have opportunities to take courses in various fields and make up their minds during their lower division work. They should, however, take full advantage of the opportunities that exist on and outside the campus to learn more about available fields of study and occupational fields.

Planning a Major Program

When students have selected a major field, they should study carefully all the requirements which are specified in this catalog under their chosen degree program. Then they should make a tentative semester by semester plan for completing the requirements, with careful regard for courses which are prerequisite to others. They should discuss this plan with their major advisers who will be able to help them with any problems.

In addition to courses in the major department, related courses in other fields and supporting courses in basic skills also may be required. These, too, should be included in the tentative semester by semester plan. These auxiliary requirements are described in the degree program for each major.

Some departments require placement tests prior to admission to classes. The time and place for such tests is given in the class schedule, often before registration. Students should purchase a copy of the class schedule at the Titan Bookstore well before registration for classes begins.

Choosing General Education Courses and Electives

In keeping with the liberal arts tradition, the university requires its graduates to have sampled a variety of disciplines as part of their general education. The broad categories of general education courses are presented in the catalog section on "Graduation Requirements for the Bachelor's Degree". Through these requirements students are introduced to the worlds of values, ideas, and beauty, to mankind and his problems, to the natural world in which man lives, and to skills essential for scholarship.

To many students the selection of general education courses and electives poses many difficult choices. With well over 2,700 classes to choose from and over 50 fields of specialization that can be sampled, some demanding decisions must be made. Various aids or resources are available. Among these are: this catalog and the class schedule with their descriptions of regular and new and experimental courses; informal consultations with other students and faculty members; and advisers in the Office of Academic Advisement.

The reasons for selecting particular general education courses and electives include; the need to explore potential major or vocational interests; curiosity about or enthusiasm for a particular subject; the desire to clarify thinking and values on problems and issues of personal and social significance; the urges to broaden and synthesize work in a specialization with perspectives and skills from other fields; and desires to deepen understanding and improve skills for such central human activities as personal relationships, family and community life, citizenship activities, and leisure pursuits. Other kinds of reasons include the interests in experiencing the varying approaches and teaching methods of different, talented teachers or of sharing learning experiences with friends.

Change of Major, Degree or Credential Objective

A student who wishes to change his major, degree, or credential objective must obtain the required form in the Office of Admissions and Records. Such a change is not official until the form has been signed and filed in the Registrar's Office. A student should be aware that he will be responsible for the requirements for the new choice of major, degree, or credential that are in the catalog in effect at the time he files a change.

Communication Skills

Skills in written, oral, and gestural communication are important tools and marks of well educated men and women. Great competencies in both articulation and advocacy are arts well-worth attaining for living effective, full and civic lives and for achieving excellence in vocational careers.

A variety of experiences at the university provides opportunities to practice and develop communications skills. The acts of written and oral expression also serve to consolidate, synthesize, and develop thinking and personality.

Students will be required to demonstrate, in all classes where written expression is appropriate, their ability to write clearly and correctly about the materials of the course. Ability of a student to demonstrate writing proficiency shall be used as a part of the final grade determination in any course.

ACADEMIC ADVISEMENT

Each undergraduate student is assigned an adviser who will help the student plan an academic program. The adviser is a resource person who can provide valuable information and suggestions and who can assist the student to find the most desirable ways to meet the requirements for graduation and for his major or credential. Although the adviser is consulted, the final choice of courses and the responsibility for the program lies with the student himself.

Academic program advisers are able to offer better advice when consulted if students come prepared with lists of courses they already have taken and their own copies of transcripts from colleges previously attended (if students are new to Cal State Fullerton).

An undergraduate student who has declared a major will be assigned an adviser by the chairman of his major department. Those seeking a credential will also be assigned a professional adviser by the School of Education. Students who have not yet decided upon a major (undeclared majors),

or who are not seeking a degree will be advised in the Office of Academic Advisement.

Graduate students will be assigned a major adviser in their fields of specialization, except in education where all will have a professional adviser from the School of Education. Those students seeking a credential for teaching in secondary schools will be assigned both a professional and a major adviser.

In the School of Engineering, each student will be assigned an adviser by the dean of the school and is expected to meet with that adviser at least once a semester. He is required to file an adviser-approved program plan before the beginning of the second semester of the junior year.

PREPROFESSIONAL PROGRAMS

The academic programs of the university provide appropriate preparation for graduate work in a variety of fields. Students who have made tentative decisions about institutions in which they may wish to pursue graduate work should consult the catalogs of those graduate schools as they plan their undergraduate programs. Students planning to undertake graduate work should supplement their undergraduate programs by anticipating language requirements at major graduate schools and by intensive work in areas of special relevance to their intended graduate work. Professional schools in many universities either require or recommend that applicants complete four-year programs for admission. Although the professional schools do not always require a bachelor's degree, they generally encourage basic preparation and a broad general education leading to that degree before beginning specialization.

The university offers a number of professional programs through the master's degree. These include programs in the fine arts, business administration, communications, education, engineering, health education and physical education and recreation, library science, public administration, and speech pathology-audiology. Students interested in preparing for professional careers in these areas, either here or in other educational institutions, are encouraged to seek assistance and guidance from our faculty members in these fields.

Paramedical Health Sciences

(Dental Technician, Nursing, Occupational Therapy, Optometry,
Physical Therapy, Podiatry)

Although no specific bachelor's or master's degree program is available in the professional areas of dental technician, nursing, occupational therapy, optometry, physical therapy, podiatry, academic preparatory courses for these professions are given in the science departments. Students should register their specific interest preference in either the Office of the Vice President for Academic Affairs or the department offices in biological science or chemistry.

Prelegal Preparation

Students planning to enter law school may elect any one of several majors. In general, the better law schools require that an applicant hold a baccalaureate degree. Although there is no uniform prelegal course of study or specific university major required, it is recommended that prospective law students prepare themselves in such fields as English, American history, economics, political science (particularly the history and development of English and American political institutions) and such undergraduate courses as judicial process, administrative law, constitutional law and international law, philosophy (particularly ethics and logic), business administration, anthropology, psychology and sociology.

The major chosen and many of the courses selected should demand a high level of performance in reading difficult material, understanding abstract and complex concepts, and speaking and writing clearly and persuasively. Prelegal students are advised to take the minimum program to meet the requirements of their chosen major and courses beyond the introductory survey level in other selected fields. A distribution of course sequences among the social sciences, the natural sciences and the humanities is desirable. Students with interests in becoming lawyers should contact the Prelaw Society. Some faculty members in the School of Business Administration and Economics and the Department of Political Science also can provide advice and assistance.

Premedical-Predental Committee

Student counseling with respect to preprofessional programs in medicine, dentistry and other health sciences as well as professional school admission problems are the concern of this committee. (See

membership listing, page 429.) All students wishing to prepare for dental or medical careers should register in the Office of the Academic Vice President for Academic Affairs or either the department offices in biological science or chemistry.

Premedical Preparation

Medical schools are currently seeking applicants with as broad and liberal an educational experience as possible. They recommend that applicants pursue collegiate major programs which are of vital interest to the student. However, all medical schools require a basic minimal training in the natural sciences and the premedical-predental committee upon review of these admission requirements recommends the following coursework which satisfies this minimum training:

one year of English

three semesters of biology (including embryology and genetics)

one year of general chemistry

one year or organic chemistry with laboratory

one year of college physics with laboratory

one year of calculus

Most medical school applicants complete a baccalaureate degree program prior to beginning their medical training. However, applications to medical school are processed normally at the termination of the sixth semester (junior year). The medical college admission test, required of all medical school applicants, is taken normally during the spring of the sixth semester (junior year). The prospective medical school applicant should therefore normally plan to complete the above natural science minimal requirements by the end of the junior year. Thus he should begin general chemistry in his freshman year in order to satisfy the prerequisite requirements for the advanced courses in chemistry.

Since medical school admissions are limited, the best prepared applicants are likely to have an advantage. Many medical schools recommend certain courses in the natural sciences in addition to those listed above in the minimal requirements.

The prospective applicant is advised to consult the catalogs of those medical schools to which he anticipates applying for additional recommended preparatory subjects. He is further advised to consult a member of the Premedical Committee for assistance in planning his total collegiate program and to obtain copies of optimal programs from the chairman of the Premedical Committee.

Medical Technology

A concentration in medical technology is available under the B.A. in Biological Science program. Students interested in pursuing this field of study should select appropriate paramedical courses as electives in their study plan.

A concentration in medical technology is also available under the M.A. in Biology. Students electing this must take as part of their course requirements Biological Science 514A–E (6 units). These courses are open only to students who are M.A. candidates in the medical technology concentration and they are given at an approved cooperating hospital laboratory school. For further details consult the coordinator of medical technology in the Department of Biological Science.

Social Welfare

Full preprofessional training usually consists of two years of graduate training leading to the degree of Master of Social Welfare. Students who plan to seek employment in social work or social welfare after the completion of their B.A. degrees should prepare themselves in the fields of psychology (particularly child and adolescent psychology), sociology, anthropology, political science, economics and research methods in social science.

Students who intend to enter a professional school following undergraduate training should learn about the specific prerequisites for admission to the graduate school of their choice. Ordinarily a major in one of the social sciences, and some additional work in at least several other social sciences, is recommended.

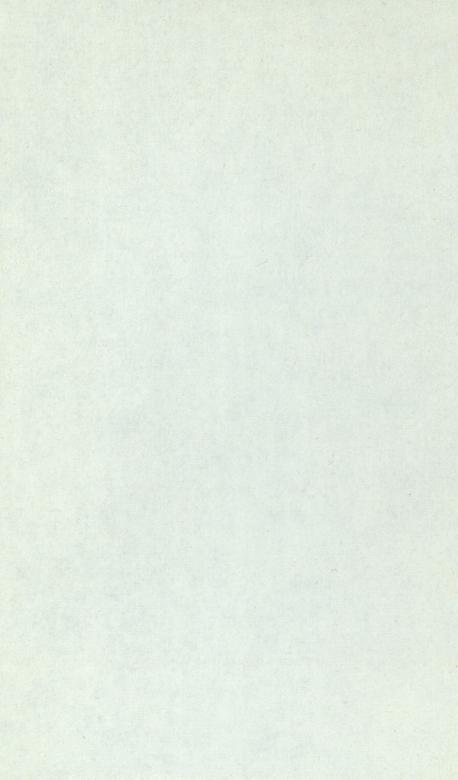
Pretheological.

Students who might be interested in pursuing careers in counseling, social work, the teaching of religion, and the ministry and associated fields should take some courses in religion, psychology,

anthropology, sociology, philosophy, education, communications, history, English, speech communication and a foreign language. Students desiring assistance and counseling regarding advanced work or professional careers may seek help from the faculty in the Department of Religious Studies.



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UNIVERSITY CURRICULA

DEGREE PROGRAMS

California State University, Fullerton offers the following baccalaureate degree programs which are described on the pages listed:

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M.A. Anthropology	252	M.A. Geography	316
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The university is accredited by the California State Board of Education and the National Council for Accreditation of Teacher Education (in elementary education, secondary education, special education, and speech and hearing audiology) for programs leading to the credentials listed under Teacher Education.

^{*} For information concerning this new degree consult the Interdisciplinary Center.

^{**} For information concerning this new degree consult Dr. Norman Townshend-Zellner.

^{***} For information concerning this new degree consult the director of the program.

SUBJECT FINDER

The listing of degree programs does not include all of the fields or subject matter areas in which some courses currently are being offered at Cal State Fullerton. Additionally, different colleges and universities differ in the names they assign to degrees, curricular programs, and the academic units offering courses. The following "subject finder" lists some of the most commonly used terms for fields with information on where courses or programs on these subjects can be located at Fullerton and in this catalog.

Subject	ruge
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Foreign Languages Education	305
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German	
Graduate Studies	94
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Mexican-American Studies (See Chicano Studies) Music	114
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Native American Studies	349
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Philosophy	350
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Physical Education	235
Physical Science	353
	354
Political Science	359
Portuguese	311
Psychology	369
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Public Relations (See Communications)	
	160
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Reading	187
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Speech Communication	392
Speech Education	402
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Theatre Education	134

COURSE DESCRIPTIONS

Course descriptions briefly describe the content or subject matter to be covered and provide additional information on units of credit, the level of instruction (general course numbering code), prerequisites, and the type of course (lecture, laboratory, activity, seminar, and individually supervised work). Information on specific offerings of courses (times, rooms, instructors) will be found in the class schedule which is printed in advance of the fall and spring semesters. Information on additional (new, special, or experimental) courses for each semester also can be found in these class schedules.

Some of the courses listed in the catalog are not taught every year. Many are taught once only every year. Others are taught every semester, and often in many sections. Advance information regarding the plans for offering particular courses may be obtained from the offices of the departments teaching them.

The forms and methods of teaching vary widely in specific classes, depending on the subject matter and purposes and the particular instructor and students. The more traditional methods of lecturing, discussion, laboratory work, and individually supervised research or projects increasingly are being supplemented by such learning resources as group and individual exercises, television, and films and records, videotaping, and the use of the computer. Modern specialized facilities and equipment are used in many courses in different fields. These include: laboratories for teaching the sciences; studios for teaching the fine arts; a small museum and archaeology/physical anthropology laboratory; a variety of facilities for teaching communications; a language laboratory for teaching foreign languages and linguistics courses; a speech and hearing clinic; and the Tucker Wildlife Sanctuary.

Cal State encourages experimentation and innovation in teaching and welcomes a diversity of approaches. Increasingly, and with growing help from students, efforts are being made on the campus to examine and evaluate and improve the learning experiences in some classrooms in more scholarly ways. Students also are being provided more opportunities to learn through teaching experiences in activities such as tutoring and organizing and conducting courses in the Experimental College.

SCHEDULES

A new class schedule is published in advance of the fall and spring semesters. This general, university schedule contains not only detailed information on times, places, and instructors for specific courses but also materials on registration, new courses that are not in the catalog, the times for final examinations, and many other useful items for course and program planning. The class schedule may be bought at the Titan Bookstore. Separate and free schedules are provided for the summer sessions and extension programs: these may be obtained from the office of the Dean of Continuing Education. The Experimental College of the Associated Students also distributes a schedule in advance of its programs of course offerings.

GENERAL COURSE NUMBERING CODE

- 100–299 Lower division courses of freshman and sophomore level, but open also to upper division students.
- 300–399 Upper division courses of junior and senior level, which do *not* give graduate credit unless included on an approved graduate study plan (such as a credential or graduate degree program) for a specific graduate student.
- 400–499 Upper division courses of junior and senior level which give graduate credit when taken by a graduate student. (Note limitations in specific graduate programs.)
- 500-599 Graduate courses organized primarily for graduate students.*
- 700-799 Graduate professional courses in the postgraduate program, not applicable to graduate degrees.

^{*} Note exceptions on page 57.

DEPARTMENTAL COURSE NUMBERING CODE

Because of the differences in the organization and content of the various disciplines and professions, there is no uniform, reasonable way of numbering courses that would be equally useful for all fields of knowledge. Some of the departments explain the logic of their own course numbering system in this catalog.

In general it may be assumed that increases in class (freshman, sophomore, junior, senior, or graduate) and certainly division level (lower, upper, graduate) correlate with more difficult and challenging academic work. Sometimes, however, disciplines organize their course numbering partly in terms of criteria other than degree of difficulty: e.g. anthropology numbers its area courses in the 300's and its theoretical or institutional courses in the 400's. It should be noted, too, that some students find introductory courses to be more demanding than advanced, specialized courses: in such courses, a more comprehensive approach and the first exposure to new ways of thinking may be harder for some individuals than covering a smaller, more familiar area, in much greater detail.

SPECIAL COURSE NUMBERS

For uniformity, certain types of courses have been listed by all departments and schools with the same numbers: 499 and 599 are used for undergraduate and graduate "independent study"; 196 or 496 for "student-to-student tutorials"; 597 for a graduate "project"; and 598 for a graduate "thesis." The course numbers for senior seminars are not so uniform but they tend to be numbered 485, 490, 491, or 495.

EXPLANATION OF COURSE NOTATIONS

Certain notations are uniformly used in the course descriptions in the catalog.

- 1. The figure in parentheses following the course title indicates the number of semester units for the course. Courses offered for varying units are indicated as (1–3) or (3–6).
- 2. A course description such as Anthropology 453 (3) (Same as Geography 453) indicates that: the same course is "cross-listed" by both departments, i.e. a student can choose to take the course and count it as either an anthropology *or* a geography course; the complete course description will be found with the geography courses; and probably the instructor will be a member of the Geography Department. For this same cross-listed course, the Geography Department will indicate after the course description "(Same as Anthropology 453)."
- A notation such as (Formerly 433) following the course title and the number of units indicates the same course previously was numbered 433.

PREREQUISITES

Students are expected to meet stated prerequisites for all courses. However, in exceptional cases, and at the discretion of the division in which the course is taught, students may be allowed to meet prerequisites by examination.

INDEPENDENT STUDY

Under the independent study program, the upper division student can pursue topics or problems of special interest beyond the scope of a regular course under the supervision of a faculty adviser. The work is of a research or creative nature, and normally culminates in a paper, project, comprehensive examination, or performance. Before registering, the student must get his topic approved by the professor who will be supervising independent study. The catalog numbers for independent study in departments are 499 and 599. Independent study courses may be repeated. A student wishing to enroll in more than six units of independent study in any one semester must have the approval of his major adviser and of the chairman of the department(s) in which the independent study is to be conducted.

INTERNATIONAL STUDY COURSES

Cal State Fullerton students under the California State University and Colleges International Study Programs register concurrently at Cal State Fullerton and at the host institution abroad, with credits assigned to the student which are equivalent to courses offered at Cal State Fullerton. Undergraduate students who discover appropriate study opportunities at the host institution but no equivalent course at Cal State Fullerton may use Independent Study 499 and International Study 292 or 492. Graduate students may use Independent Graduate Research 599 and International Study 592.

292 Projects in Study Abroad (Subject): (1-6 lower division units)

Open to students enrolled in California State University and Colleges International Programs. Study undertaken in a university abroad under the auspices of the California State University and Colleges.

492 Projects in Study Abroad (Subject): (1-3 upper division units; maximum 12)

Open to students enrolled in California State University and Colleges International Programs. Study undertaken in a university abroad under the auspices of the California State University and Colleges.

592 Projects in Study Abroad (Subject): (1-3 graduate units; maximum 12)

Open to students enrolled in the California University and Colleges International Programs. Study undertaken in a university abroad under the auspices of the California State University and Colleges.

GRADUATE STUDIES 700

A credit/no credit course with no (0) units of credit, which is designed to ensure continuous registration for those graduate students with an advanced degree objective who find that they are unable to enroll in regularly offered coursework. This course does not require class attendance. Permission to register in Graduate Studies 700 must be given by appropriate university authorities. A student may not register in Graduate Studies 700 for a third consecutive semester.

Students are reminded that units in a 700-level course may not be applied toward fulfillment of requirements for an advanced degree.

STUDENT-TO-STUDENT TUTORIALS

The university has begun a program of experimentation with and development of "student-to-student tutorials." One of the fastest and profoundest ways to learn is to teach. The "student-to-student tutorial" will provide a formal way to encourage students to learn through teaching. It will expand significantly the opportunities for students to have meaningful experiences as teachers. At the same time, it greatly will increase the amount of tutoring available and will extend tutoring to all of the kinds of students who need and want tutorial assistance.

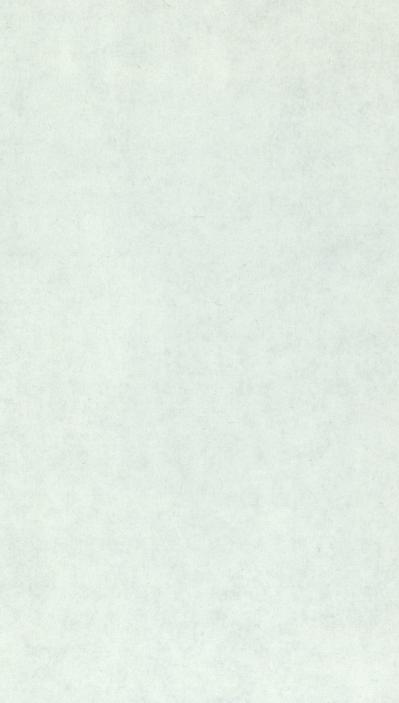
Students electing to be tutors not only will increase their mastery of particular subject matters but also will have practice in developing their communication, cooperation and interpersonal relationship skills. Most important adult roles and jobs also involve a teaching dimension and the tutorial experience will provide opportunities to develop awareness of teaching problems and competence in teaching techniques.

Each department will decide whether or not it wishes to offer this course. Departments choosing to offer the student-to-student tutorial course will follow the rules listed in the following course description.

The course number will be 196 or 496, and one to three units of credit can be given for each course. Prerequisites: A 3.0 or more grade-point average and/or consent of instructor and simultaneous enrollment in the course or previous enrollment in a similar course or its equivalent. The tutor and his tutee or tutees will work in mutually advantageous ways by allowing all involved to delve more carefully and thoroughly into the materials presented in this specific course. One to three students may be tutored by the tutor unless the instructor decides that special circumstances warrant increasing the usual maximum of three tutees. Three hours of work are expected for each unit of credit, and this work may include, apart from contact hours with tutees, such other activities as: tutorial preparations; consulting with instructors; reporting, analysis and evaluation of the tutorial experiences; and participation in an all-university orientation and evaluation program for tutors. A maximum of three units can be taken each semester and nine units of any combination of 196 and 496 for an undergraduate program. This course must be taken as an elective and not counted toward general education, major or minor requirements. The course can be taken on a credit/no credit basis by the tutor. Requests for tutors must be initiated by tutees and can be initiated up until the official university date for dropping a class with a W. Tutors electing to respond to such requests will receive credits at the end of the semester and can register in the course until the official university date for dropping a class with a W. Both tutors and tutees must submit written reports, analyses and evaluations of their shared tutorial experience, and both must participate in an all-university orientation program as well as in any conferences or critiques that the instructor of the course may require. Further information can be obtained from the department in which the student is interested in "student-to-student tutorials."



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SCHOOL OF THE ARTS

Dean: J. Justin Gray

DEPARTMENT OF ART

FACULTY

Gerald Samuelson
Department Chairman

Alvin Ching, Robert Cumming, Darryl Curran, Naomi Dietz, Henry Evjenth, Robert Ewing, Dextra Frankel, Carmel Goode, Raymond Hein, Thomas Holste, George James, G. Ray Kerciu, Thomas Klobe, Donald Lagerberg, Michael Lee, Clinton MacKenzie, John Olsen, Robert Partin, Jerry Rothman, David Sanford, Victor Smith, Jon Stokesbary, Howard Warner

The Department of Art offers a program which includes the several fields of art history, theory and appreciation; drawing, painting, sculpture; design and crafts; and art education. The broadest objective of the program is to contribute to the intellectual, social, and creative development of the student as he prepares for citizenship in a democratic society. More specifically, the art program provides opportunities for students: (1) to develop a knowledge and understanding of those general principles of visual organization and expression basic to all forms and fields of art; (2) to develop a critical appreciation and understanding of historical and contemporary art forms through a study of these principles as they relate to the range of artistic production of mankind; (3) to use these general principles as a means to express more clearly their ideas, thoughts, and feelings in the creation of visual forms; (4) to develop those understandings and skills needed to pursue graduate studies in the field, to teach art in the schools, or to qualify for a position in business and industry as an art specialist.

Undergraduate curricula leading to the bachelor of arts degree have been designed to meet the specialized needs of the following groups: (1) students who wish to study art as an essential part of their personal and cultural development; (2) students seeking preprofessional preparation in art; and (3) students planning to teach art in grades K-12.

To qualify for a baccalaureate degree with a major in art, students must have a C average in all courses required for the degree. No credit toward the major will be allowed for specific major courses in which a grade of D is obtained. As is customary, the Art Department reserves the right to hold projects completed by a student for class credit for a period of three years.

BACHELOR OF ARTS IN ART

Three course programs have been planned to meet the individual needs and interests of students working for the bachelor of arts degree with a major in art.

In the development of specific course offerings which make up these programs, it has been the concern of the art faculty to see that each program contains: (1) basic courses in art history, theory, appreciation, and studio practice which have as their primary focus the study of those general principles of visual organization and expression underlying all fields of art: (2) more specialized courses which provide for adequate preparation in depth in a single field of art. The teaching of art history, theory, and criticism is not confined to courses bearing that title. Rather, each studio course involves theory as well as the practice of art, includes as part of its content the study and reference to related historical art forms, and has as part of its purpose the development of those critical abilities which are necessary to a valid evaluation and appreciation of the art expressions of man.

Plan I provides for an emphasis in the area of art history, theory, and appreciation and is particularly recommended for those students who wish to pursue graduate studies in art history or museology. Plan II is designed for those students who prefer a studio-type program with a preprofessional orientation and an area of specialization selected from the following: (1) drawing and painting; (2) printmaking; (3) sculpture; (4) crafts; (5) ceramics; (6) graphic design; (7) illustration; (8) environmental design; or (9) creative photography.

Plan III is for those students who wish to meet the requirements for single subject instruction (Ryan Act) for teaching art in grades K–12.

Plans I and II require a minimum of 60 units in art or approved related courses with a minimum of

30 units of upper division in art. Plan III requires a minimum of 55 units of art including a minimum of 31 units of upper division art.

In addition to the requirements listed below for the major, students must meet the other university requirements for a bachelor of arts degree (see page 67). Students following Plan III also must meet any specific requirements for the desired teaching credential (see section in catalog for School of Education).

PLAN I: ART HISTORY EMPHASIS Preparation for the Major: Art history 201A,B (6 units); 6 units of studio courses; approved	Units
electives (12 units) in art, anthropology, drama, foreign languages, history, literature, music or philosophy	24
The Major: Art history (36 units) including one course from each of the following six groups: 301-302; 411-412; 421-422; 431-432; 451-452; 461-462-471; six courses in not more than three of the above groupings and three courses (9 units) of approved electives.	36
Reading knowledge of one modern foreign language of white sold with the sold of the sold o	100
PLAN II: STUDIO EMPHASIS	
Drawing and Painting	
Preparation for the Major: Art 201A,B; 107A,B; 103; 104; 117A,B,C; 207A,B; and 3 units of electives. (Recommended electives: Art 216A or 247A)	30
and 6 units of electives in art	30
Printmaking 12 20	
Preparation for the Major: Art 201A,B, 107A,B, 247, 117A,B,C, 103, 104 and 6 units of electives	30
The Major: 6 units of upper division art history, Art 347A,B, 487D (6 units), 307A, 317A and 6 units of electives in art	30
Sculpture Sculpture (C1) Students seeking methods of the seeking seeking and called the seeking seekin	
Preparation for the Major: Art 201A,B, 107A,B, 103, 104, 216A,B, 117A,B,C, and 205A The Major: 6 units of upper division art history, Art 316A,B, 486 (6 units), 336A,B, and	30
6 units of electives in art	30
Crafts Preparation for the Major: Art 201A,B, 123A, 107A,B, 103, 104, 205A and 6 units selected from Art 106A, 205B, 216A or 117A,B,C	30
The Major—General Concentration: 6 units of upper division art history, Art 305A, 315A, 325A, 355A or 365A and 12 units selected from Art 305B, 315B, 316A, 325B, 338A,	
485A, 485B, 485C or 485D or 485E	30
6 units selected from Art 485A or 485C	30
art	30
Ceramics	
Preparation for the Major: Art 201A,B, 107A,B, 103, 104, 106A,B, 117A,B,C and 3 units of electives	30
The Major: 6 units of upper division art history, Art 306A,B, 484 (6 units), 406A,B and 6 units of electives in art	30
Graphic Design	
Preparation for the Major: Art 201A,B, 107A,B, 103, 104, 123A, 117A,C,D, 223A,B The Major: 6 units of upper division art history, Art 323A,B, 483A (6 units), 338A, 317A,	30
363A, 3 units selected from Art 338B, 317B or 363B and 6 units of electives in art	30

Art	101
Illustration de la	Units
Preparation for the Major: Art 201A,B, 107A,B, 103, 104, 123A,B, 117A,C,D, 223B	30
The Major: 6 units of upper division art history, Art 363A,B, 483C (6 units), 317A,B, 323A, 3 units selected from Art 338A, 307A, 487B	30
Environmental Design	
Preparation for the Major: Art 201A,B, 107A,B, 103, 104, 123B, 213A,B and 3 units of art electives	30
The Major—Interior Space Planning Concentration: 6 units of upper division art history, Art 313A,B, 483B (6 units), 453A and 10 units selected from Art 323A, 333A,B, 355A,	20
363A, 365A, 453B, 483D	30
333A,B, 483C (6 units), 323A, 453A,B, and 3 units of electives in art	30
Creative Photography	
Preparation for the Major: Art 201A,B, 103, 104, 107A,B, 117A,C,D, 247A and 6 units of	nasteed T
electives	30
units selected from 323A, 363A, 307A or 347B	30
Black the Tracking State and all behalted assessed ordered assessed as demonstrated by	
PLAN III: TEACHING EMPHASIS	
Single Subject Instruction—Ryan Act	
(Qualifies for teaching Art in grades K-12) Preparation for the Major: Art 103, 104, 107A,B, 117A,B,C, 201A,B and 205A	24
The Major: Art 305A, 310A,B, 323A, 338A, 380, 412, 441 and 7 units of electives in art Professional Preparation:	31
Art Ed 442	4
Education coursework	5
Student teaching (one semester full time)	15
1. Assignment by the Art Department chairman to a faculty adviser in art education.	
Fulfill credential requirements listed in this catalog within the School of Education curriculum pertinent to the Ryan Act provisions.	for the
Meet the requirements listed under Plan III, Teaching Emphasis for the bachelor's d art.	egree in
4. Completion of major and education course requirements prior to enrolling in student t	eaching.
Art 380, 441, and Art Ed 442 are recommended for concurrent enrollment in the seme prior to student teaching.	ester just
Admission to teacher education through the School of Education is required prior to en in Art Ed 442 and student teaching.	rollment
Acceptance for student teaching is based on candidate quotas, a review of a car portfolio of art work, and evidence of success in university coursework completed.	ndidate's
8. Recommendation by the faculty adviser in art education.	
Upon completion of the above program and the bachelor of arts degree, the student is elia a partial credential, which meets state requirements for teaching in grades K–12. Within a speriod of time from the beginning of a teaching assignment, 30 units of coursework completed at an accredited college or university to qualify for a full credential. Credentials a from the institution where this unit requirement has been completed.	specified must be
Fifth Year Credential Program:	Units
This program is designed to meet the 30 unit Ryan Act requirement for the full credential authorizing single subject instruction in grades K-12. Emphasis is placed on an indepth program in one of three possible course options.	
Drawing and Painting Option: Art 207A,B, 307A,B, 317A,B, 347A, 487 and 6 units of	
adviser-approved electives in art	30
of adviser-approved electives in art	30
6 units of adviser-approved electives in art	30

Multiple Subject Instruction-Ryan Act

The following three courses are recommended for all students intending to teach in the elementary schools in multiple subject classrooms:

Music 333	
Theatre 402	3

The following additional list of courses would be strongly recommended for any student who wishes to expand his knowledge in any or all of the arts:

Art 100, 101, 103, 104, 107A, 201A,B, 310A,B, 320, 330, 340, and 380 Dance 135A,B

Music 111A,B, 184A,B, 251, 281A,C,E,G, 283A, 381A,B, 435 Theatre 100A,B, 211, 263A, 276A, 277, 370A,B, 402, 403, 411C

MINOR IN ART FOR THE BACHELOR OF ARTS DEGREE

A minimum of 24 units is required for a minor in art for the bachelor of arts degree of which a minimum of 10 units must be in upper division courses. Included in the program must be a basic course in each of the following areas: (1) art history and appreciation; (2) design; (3) drawing and painting; and (4) crafts. Those students planning to qualify for a standard teaching credential with specialization in elementary or secondary teaching and art for a minor must obtain approval from the Art Department for the courses selected to meet the upper division requirements for a minor in art.

MASTER OF ARTS IN ART

The program of studies leading to the master of arts degree in art provides a balance of theory and practice for those who desire to teach art or wish to develop a sound basis for continued advanced work in this field. The program offers each student the opportunity to expand his intellectual and technical resources and to acquire greater richness and depth in terms of creative understanding and achievement in one of the following areas of concentration: (1) drawing and painting (including printmaking); (2) crafts (including ceramics); (3) design; and (4) sculpture.

Prerequisites for the Program

Prerequisites to the program include:

- An undergraduate major in art or 24 units of upper division art including at least 12 units of upper division study in the elected area of concentration with a GPA of 3.0 or better;
- 2. Portfolio review—before any units may apply to the approved study program for the degree, the student must arrange for a faculty committee evaluation of the student's background, including a statement of purpose by the student, and review of creative work. Portfolio review dates are May 1 for the following fall semester, and December 1 for the following spring semester of each year. Arrangements may be made through the Art Office to meet these deadlines.

Study Plan

The degree program requires 30 units of graduate study approved by the student's graduate committee of which 15 must be 500-level courses. The 30 units are distributed as follows:

1. 500-level courses in art	en englest	<i>Units</i> 15–21
A. Core courses in art, history, philosophy, analysis and criticism	. (9)	
Art 500A, Graduate Seminar in Major Field		
Art 500B, Graduate Seminar in Major Field	. (3)	
Art 481, Special Studies in Art History, or substitute of a 400-level ar history course or Philosophy 311, Aesthetics, on the recommendation		
of the major adviser	. (3)	
B. Coursework in the area of concentration selected from one of the follow		
ing areas: drawing and painting: crafts: design: sculpture	(6)	

Art

103

All courses must be completed with a B average, and all courses in the area of concentration must be graded B or better. The Department of Art requires the candidate for the Master of Arts in Art degree to exhibit his or her project in the department upon completion of the Master of Arts in Art degree and the art faculty reserves the right to retain an example from the student's master's exhibit for the university collection.

For further information, consult the Department of Art.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

ART COURSES

100 Exploratory Course in Art (3)

Exploration and creative use of a variety of art materials, processes, and concepts. Field trips required. Not open to art majors for credit except by permission of the Art Department. (6 hours activity)

101 Introduction to Art (3)

A course for the general student designed to develop an understanding of historical and contemporary art forms. Illustrated with examples of painting, sculpture, architecture, and design. Field trips required. Not open to art majors for credit except by permission of the Art Department.

103 Two-dimensional Design (3)

The inventive use of materials, tools, and elements of plastic organization as related to a twodimensional surface. (6 hours activity)

104 Three-dimensional Design (3)

The inventive use of materials, tools, and elements of plastic organization as related to threedimensional form. (6 hours activity)

106A,B Beginning Ceramics (3,3)

Prerequisite: Art 103. A basic course in the study of form as related to ceramic materials, tools, processes, and concepts. (6 hours activity)

107A,B Beginning Drawing and Painting (3,3)

Beginning work in the creative use of the materials of drawing and painting with emphasis on visual concepts, use of medium, individual exploration, and growth, planning and craftsmanship. 107A emphasizes drawing; 107B emphasizes painting. (9 hours laboratory)

111 Fundamentals of Art (3)

A comparative study of the elements of plastic organization in relation to personal and cultural aesthetic expression and concepts. Fundamental art ideas, problems of organization and structure, and terminology. Field trips required.

117A,B,C Life Drawing (1,1,1)

Drawing from the live model. (3 hours laboratory for each unit)

123A,B Descriptive Drawing (3,3)

An intensive study of traditional and contemporary drawing techniques and theories. Emphasis in 123A on representation of nature forms and in 123B on manmade and mechanical forms including linear perspective. (9 hours laboratory)

201A,B Art and Civilization (3,3)

A comparative survey of the basic ideas, forms, and styles of the visual arts as they developed in various cultures from prehistoric time to the present day.

205A Beginning Crafts (3)

Prerequisites: Art 103 and 104. Art 104 may be taken concurrently. A study and evaluation of craft concepts, processes and materials as they relate to the development of aesthetic forms based on function. (6 hours activity)

205B Beginning Crafts: Wood (3)

Prerequisites: Art 103 and 104. Art 104 may be taken concurrently. A study and evaluation of woodworking concepts and processes as they relate to the development of wood into aesthetic form based on function. (6 hours activity)

207A,B Drawing and Painting (Experimental Methods and Materials) (3,3)

Prerequisites: Art 117A,B, Art 107A,B or the equivalents. An intensive study of traditional and contemporary methods and materials as they relate to current approaches in drawing and painting. (9 hours laboratory)

213A,B Beginning Interior Design (3,3)

Prerequisites: Art 103 and 104 or equivalents, and Art 123B. An introduction to design theory and communication skills related to the interior design field. A—Emphasis on architectural terminology, plans and elevations, and graphic symbols. B—Emphasis on material analysis and lighting. (6 hours activity)

216A,B Beginning Sculpture (3,3)

Prerequisite: Art 104. An introductory course in sculpture with emphasis on the creative use of wood and metal, power equipment and hand tools. (6 hours activity)

223A.B Lettering, Typography and Rendering (3,3)

Prerequisite: Art 103. A study of the history, design and use of letter forms including techniques for rough and comprehensive layouts and the use of both hand-lettered forms and handset type.

(6 hours activity)

247 Beginning Printmaking (3)

Prerequisite: Art 107A,B. An introductory course of all printmaking forms to include litho, etching, woodcut and serigraphy. (6 hours activity)

286 Design for the Theatre (3)

(Same as Theatre 286)

301 Ancient Art (3)

A study of the developments in art from the Paleolithic to the period of late antiquity.

302 Medieval Art (3)

A study of the developments in art from the period of late antiquity through the Gothic.

305A Advanced Crafts (3)

Prerequisite: Art 205A. Study and evaluation of craft concepts, processes, and materials as they relate to the development of utilitarian and aesthetic form. (9 hours laboratory)

305B Advanced Crafts: Wood (3)

Prerequisite: Art 205B. A study and evaluation of craft concepts and processes as they relate to the development of wood into utilitarian and aesthetic form. (9 hours laboratory)

306A.B Advanced Ceramics (3.3)

Prerequisite: Art 106A,B. Further experiences in the study and evaluation of form as related to the creative use of ceramic concepts and materials including design, forming, glazing, and firing. (6 hours activity)

307A,B Drawing and Painting (3,3)

Prerequisites: Art 117A,B,C, 107A,B, 207A,B or equivalents. The study, evaluation and creative use of the concepts and materials of drawing and painting with emphasis on individual exploration, growth, planning and craftsmanship. (9 hours laboratory)

310A,B Drawing and Painting: Techniques and Approaches for the Classroom Teacher (3,3)

Prerequisite: Art 100. The study and development of painting and drawing materials and approaches as they relate to elementary and secondary education. (6 hours activity)

313A Interior Design (3)

Prerequisites: Art 103 and 123A,B. Aesthetic and economic considerations involved in the visual organization of the environment in relation to human needs with emphasis on interior space planning. (6 hours activity)

313B Interior Design (3

Prerequisite: Art 313A. Aesthetic and economic considerations involved in the visual organization of the environment in relation to human needs with emphasis on professional practice including material analysis and business procedures. (6 hours activity)

315A,B Jewelry (3,3)

Prerequisites: Art 205A and 305A. Art 305A may be taken concurrently. Design and creation of jewelry. (9 hours laboratory)

316A,B Sculpture (3,3)

Prerequisites: Art 104 and 216A. (9 hours laboratory)

317A,B Advanced Life Drawing (3,3)

Prerequisite: three units lower division life drawing. Drawing and painting from the live model. (9 hours laboratory)

320 Paper: Structural and Decorative Techniques (3)

Prerequisites: Art 103 and 104. An exploration of the structural and decorative aspects of construction with paper, emphasizing three-dimensional design. Such techniques as papier mache, paper sculpture, paper folding and paper applique will be considered through a variety of paper surfaces. (6 hours activity)

323A,B Graphic Design (3,3)

Prerequisites: Art 103 and 223A. Development and projection of ideas in relation to the technical, aesthetic, and psychological aspects of advertising art. (6 hours activity)

325A,B Metalsmithing (3,3)

Prerequisites: Art 205A and 305A. Art 305A may be taken concurrently. A study and evaluation of fundamental metalsmithing concepts, processes and materials as they relate to the aesthetic development of utilitarian forms, raising, silversoldering, forging, casting, engraving, chasing and repousse. (9 hours laboratory)

326A,B Ceramic Sculpture (3,3)

Development of basic ceramic technology into individual sculptural forms and techniques. (6 hours activity)

329A,B Art and Technology (3,3)

Creative activity in the context of modern technology. (9 hours laboratory)

330 Textile Design: Threads and Fibers, Non-woven Techniques (3)

Prerequisites: Art 103, 104 or 205A or B, or consent of instructor. Concepts and processes of design as they relate to non-loomed structures, to include macrame, crochet, stitchery and knitting. (6 hours activity)

333A,B Environmental Design (3,3)

Prerequisites: Art 103, 104 and 123A,B. Planning and designing of projects in relation to the technological, psychological and social aspects of contemporary society. (6 hours activity)

336A.B Casting Techniques and Theories of Cast Sculpture (3,3)

Prerequisite: Art 316A. Projects in various waxing molding and metal casting techniques. Media with emphasis on aluminum and bronze and the lost wax process. (9 hours laboratory)

338A Creative Photography (3)

Prerequisite: Art 103 or its equivalent. Exploration of the photographic media as a means of personal expression. Historical attitudes and processes are discussed in relationship to new materials and contemporary aesthetic trends. Field trips required. (9 hours laboratory)

338B Creative Photography (3)

Prerequisite: Art 338A. Further exploration of the photographic medium as a means of personal expression. Historical and new processes introduced as a vehicle toward the individual student's personal goal. Field trips required. (9 hours laboratory)

340 Ceramics: Techniques for the Classroom Teacher (3)

Prerequisite: Art 100. Beginning work in the creative use of hand building processes, and glazing of ceramic ware. Related information on decorating processes, drying and firing kilns as they apply to appropriate teaching levels. Historical development of ceramics as it relates to various cultures.

341 Art of India (3) (Formerly 441)

A study of the art of India and its impact on the cultures of Southeast Asia, with an emphasis on Buddhist and Hindu monuments. Schools of miniature painting and the art of Muslim India included.

347A Printmaking (3)

Prerequisites: Art 107A,B, 247, and 117A,B,C. Development of concepts and exploration of materials involved in printmaking including etching, woodcut, aquatint, monoprint and serigraphy. (9 hours laboratory)

347B Printmaking—Lithography (3)

Prerequisites: Art 107A,B, 247, and 117A,B,C. Development of concepts and exploration of materials and techniques involved in lithography printing. (9 hours laboratory)

350A,B Painting for Non-Art Majors (3,3)

Opportunities for students with little or no background in art to work creatively with various painting media both indoors and outdoors. Not open to art majors. (9 hours laboratory)

355A,B Textile Design and Construction: Fabric Printing (3,3)

Prerequisites: Art 103, 107A or B or consent of instructor. Concepts and processes of design as they relate to fabric surfaces with emphasis on various printing and dyeing techniques. (6 hours activity)

360 Elementary School Crafts (2)

Studio activities and techniques of crafts appropriate to the elementary school. Strongly recommended for elementary teaching credential candidates. (4 hours activity)

363A,B Illustration (3,3)

Prerequisites: Art 103, 107A,B and 117A,B,C. Development and projection of ideas relative to the needs of story, book, and magazine, and film illustration. (6 hours activity)

365A,B Textile Design and Construction: Weaving (3,3)

Prerequisites: Art 103, Art 104 or 205A,B or consent of instructor. Concepts and processes of design as they relate to fabric construction with emphasis on various weaving techniques. (6 hours activity)

380 Art and Child Development (3)

Prerequisites: Art 100 or equivalent. The study and evaluation of art concepts, materials, and processes as they relate to and promote child development. (6 hours activity)

401A,B Criticism of the Arts (3,3)

Prerequisite: senior or graduate standing in the School of the Arts. Other majors by consent of instructor. 401A is prerequisite to 401B except by consent of instructor. Criticism which in the first semester will develop criteria and vocabulary applicable to criticism in the visual and performing arts through lectures, readings, discussions, and attendance at exhibits and performances. Emphasis on oral and written skills in the communication of artistic concepts and critical evaluations. Second semester emphasizes practical aspects of writing newspaper reviews and speculative essays based on musical concerts, dramatic productions, and exhibits of visual arts.

406A,B Ceramic Analysis (3,3)

Prerequisites: Art 106A,B and 306A. An introduction to the physical and chemical aspects of ceramic materials. Study and evaluation of ceramic materials as they are related to the development of the ceramic art form. (6 hours activity)

411 Foundations of Modern Art (3

Basic problems of painting and sculpture of the Realism, Impressionism, Post Impressionism periods.

412 Art of the 20th Century—1900 to Present (3)

Fundamentals of modern painting, graphics and architecture.

421 Oriental Art: China (3)

A study of the historical development of the arts of China and their relation to Chinese philosophy and culture.

422 Oriental Art: Japan (3)

A study of the historical development of the arts of Japan and their relation to Japanese philosophy and culture.

426 Glass Forming (3)

Prerequisites: Art 106A,B, 306A, and consent of instructor. A course in the chemistry, handling and manipulation of glass and its related tools and equipment for the ceramic artist. (6 hours activity)

431 Renaissance Art (3)

Basic problems of painting, sculpture and architecture of the Renaissance period. Lectures, discussion and field trips.

432 Baroque and Rococo Art (3)

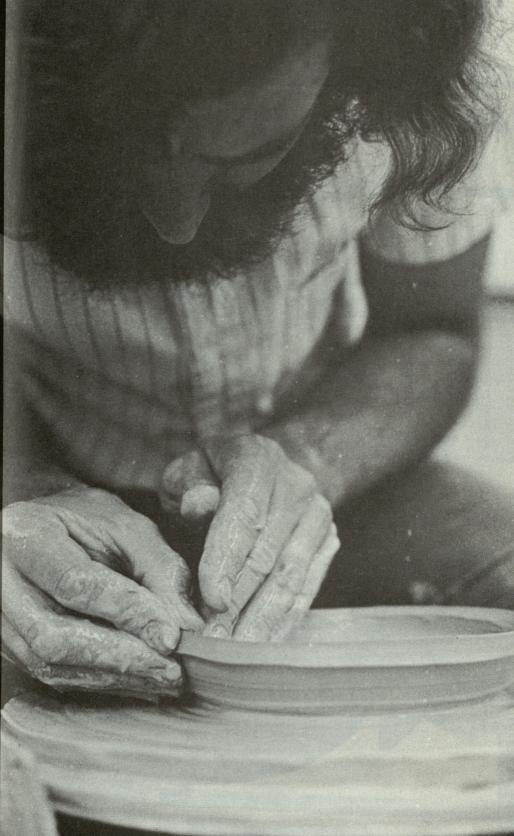
Basic problems of painting, sculpture and architecture of the Baroque and Rococo period. Lectures, discussion and field trips.

441 Studio Problems in Secondary Art Education (3)

Prerequisite: senior standing in art or consent of instructor. Advanced individual studio problems with projects related to specific learning experiences in Art Education at the secondary school level. (6 hours activity)

443A,B Film Making (3,3)

Development of film as a visual art form.





451 Oceanic Art (3)

An introductory survey of the styles of the aboriginal people of the following regions: Australia, Melanesia, Micronesia, Polynesia and Indonesia.

452 Art of Sub-Saharan Africa (3)

An introduction by region and tribal group to the art forms of West Coastal Africa and the Sudan, Niger River kingdoms, Yoruba kingdoms, Cameroon chieftainships. Congo tribes, Central Africa and East Coastal Africa.

453A,B Display and Exhibition Design (2,2)

A course in the appropriate and creative use of materials, processes, and design concepts as they relate to the special problems involved in the planning and preparing of displays, exhibits, bulletin boards, wall cases, and art portfolios. (More than 6 hours laboratory)

461 Art of North American Indian (3)

An introduction to the art forms and style groupings of the following American Indian groups: Eskimo, Pacific Northwest, California, Eastern Woodlands, Mound Builders, Southwestern and Northern Mexico.

462 Art of Mesoamerica (3)

An introduction to the art and architectural forms of Mesoamerica from the early, formative stages to the Spanish Conquest.

471 Art of Central and South America (3)

An introduction to the art styles and cultural regions of Central America and South America.

481 Special Studies in Art History (1-3)

Prerequisite: consent of instructor. Opportunities for intensive study and evaluation in one area of art history and appreciation.

483 Special Studies in Design (1-3)

Prerequisite: consent of instructor. Opportunity for intensive study in the design areas listed below. Each area listed may be repeated to a maximum of 12 units, but no more than 3 units of credit may be obtained in any one area in a single semester.

483a Graphic Design (2 hours activity for each unit)

483b Interior Design (2 hours activity for each unit)

483c Design and Composition (2 hours activity for each unit)

483d Display Design (More than 3 hours laboratory for each unit)

483f Film Making (2 hours activity for each unit)

484 Special Studies in Ceramics (1-3)

Prerequisite: a minimum of six upper division units in ceramics. Course may be repeated to a maximum of 12 units, but not more than three units of credit may be obtained in any one area in a single semester. (2 hours activity for each unit)

485 Special Studies in Crafts (1-3)

Prerequisite: a minimum of six upper division units in designated area or consent of instructor. Opportunity for intensive study in the craft areas listed below. Each area listed may be repeated to a maximum of 12 units, but no more than three units of credit may be obtained in any one area in a single semester. (2 hours activity for each unit)

485a lewelry

485b General Crafts

485c Metalsmithing

485d Textile Design-Weaving, Threads and Fibers

485e Textile Design—Fabric Printing

486 Special Studies in Sculpture (1-3)

Prerequisites: Art 316A,B and consent of instructor. Opportunity for intensive study in the following sculptural processes. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (2 hours activity for each unit)

486a Modeling and Fabrication

486b Casting

487 Special Studies in Drawing and Painting and Printmaking (1-3)

Prerequisite: a minimum of six upper division units and consent of instructor. Opportunity for intensive study in the drawing and painting areas listed below. Each area listed may be repeated to a maximum of 12 units, but no more than three units of credit may be obtained in any one area in a single semester. (3 hours laboratory for each unit)

487a Painting

487b Life Drawing

487c Drawing

487d Printmaking

488A,B Advanced Scene Design (3,3)

(Same as Theatre 488A,B)

489 Special Studies in Creative Photography (1-3)

Prerequisite: Art 338A,B. Advanced projects in photography as a means of personal expression. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (2 hours activity for each unit)

500A Graduate Seminar in Major Field (3)

Selected advanced problems and issues in art. Emphasis is on intellectual clarification and verbal articulation of individual intent as an artist. Each student will develop oral and written material in support of his master's project.

500B Graduate Seminar in Major Field (3)

Prerequisite: Art 500A. Directed research in the area of major emphasis. Each student will develop oral and written material on historical backgrounds and developments in art as they relate to his intent as an artist (stated in Art 500A) and in support of his master's project.

502 Seminar in Contemporary Art (3)

Selected advanced problems and directed research in relation to the contemporary art form.

503 Graduate Problems in Design (1-3)

Prerequisite: consent of instructor. Intensive study with emphasis on planning, development, and evaluation of individual projects in the design areas listed below. May be repeated to a maximum of 12 units in each area, but no more than three units of credit may be obtained in any one area in a single semester.

503a Graphic Design (2 hours activity for each unit)

503b Interior Design (2 hours activity for each unit)

503c Design and Composition (2 hours activity for each unit)

503d Display Design (More than 3 hours laboratory for each unit)

503f Film Making (2 hours activity for each unit)

504 Graduate Problems in Ceramics (1-3)

Prerequisite: consent of instructor. Intensive study with emphasis on planning, development and evaluation of individual projects in ceramics. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (2 hours activity for each unit)

505 Graduate Problems in Crafts (1-3)

Prerequisite: consent of instructor. Intensive study with emphasis on planning, development, and evaluation of individual projects in the crafts areas listed below. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (2 hours activity for each unit)

505a Jewelry

505b General Crafts

505c Metalsmithing

505d Textile Design-Weaving-Threads and Fibers

505e Textile Design—Fabric Printing

506 Graduate Problems in Sculpture (1-3)

Prerequisite: consent of instructor. Intensive study with emphasis on planning, development, and evaluation of individual projects in sculpture. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (2 hours activity for each unit)

507 Graduate Problems in Drawing and Painting (1-3)

Prerequisite: 12 units of upper division drawing and painting. Intensive study with emphasis on planning, development, and evaluation of individual projects in the drawing and painting areas listed below. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (3 hours laboratory for each unit)

507a Painting

507b Life Drawing

507c Drawing

507d Printmaking

597 Project (3-6)

Prerequisites: Art 500A and 500B, written consent of instructor and recommendation of the student's graduate committee. Art 500B may be taken concurrently with Art 597 on approval of instructor. Development and presentation of a creative project in the area of concentration beyond regularly offered coursework.

598 Thesis (3-6)

Prerequisites: Art 500A and 500B, written consent of instructor and recommendation of the student's graduate committee. Art 500B may be taken concurrently with Art 598 on approval of instructor. Development and presentation of a thesis in the area of concentration beyond regularly offered coursework. No more than three units may be taken in any one semester.

599 Independent Graduate Research (1-3)

Open to graduate students in art with consent of department chairman and written consent of instructor. May be repeated for credit.

ART EDUCATION COURSES

332 Industrial Arts for Elementary Teachers (2)

Prerequisite: Educ 411 or consent of instructor. Creative selection, organization and use of materials and tools in construction activities. Includes correlation experiences with the social studies, science, and other units of work. (4 hours activity)

370A,B Art Activity (2,2)

Opportunities to observe, analyze, and evaluate child growth in and through creative art experiences. (4 hours activity)

429A,B Arts and Crafts for Teaching Exceptional Children (2,2)

Methods of using a variety of art materials and processes with emphasis on those experiences which meet the needs of retarded or handicapped children. (4 hours activity)

442 Teaching Art in the Secondary School (4)

Prerequisites: consent of instructor, admission to teacher education, senior standing or consent of instructor. See pages 197–198 under Secondary Education for description of standard teaching credential program. Objectives, methods, and materials including audiovisual instruction for teaching art in secondary schools. Required, before student teaching of students presenting majors in art for the standard teaching credential. The student who has not had teaching experience must register concurrently in Educ 449.

749 Student Teaching in Art in the Secondary School and Seminar (6)

See page 206 for description and prerequisites.

DEPARTMENT OF DANCE

FACULTY

Frank Hatch

Department Chairman

Masami Kuni, Miriam Tait

PART-TIME

John Dougherty

The program of studies in the Department of Dance provides training in each of the related aspects of dance such as its history, theory, composition (including space forming and choreography), and the technics of movement leading to dance performances and productions. The curriculum is designed in accordance with the following three objectives: (1) to prepare the student who wishes to enter dance as a profession, either in teaching, choreography, or performance; (2) to provide for the general university student the opportunity for a personal involvement in dance as an art form and as a basic movement experience; (3) to offer curricular experiences in dance for the student who is majoring in fields of study that are closely related to dance such as art, music and theatre. A major in dance is not offered at this time. Refer to the Department of Theatre which offers both the B.A. and M.A. degrees with areas of concentration in dance.

DANCE COURSES

101 Introduction to Dance (2)

Historical and aesthetic approach to dance as an art form, to provide student with basic knowledge and aesthetic values in ballet, modern dance, educational dance, theatrical dance as well as ethnic dance. Field trips.

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105 Eurythmics for Teachers (1)

Designed to teach and develop the rhythmic sense and ability of the students with the method of Eurythmics by Jaques Dalcroze and the rhythm-training method of Rudolf Bode. Recommended for students of dance, music, theatre and art as well as education. (2 hours activity)

125A,B Improvisation (2,2)

Prerequisite: Dance 125A is prerequisite for Dance 125B. Theory and practice of improvisation in movement. The student will be taught to overcome inhibitions, to move freely and naturally and to improvise imaginatively in movement. (1 hour lecture, 2 hours activity)

135A,B Movement and Rhythm (2,2)

Prerequisite: Dance 135A is prerequisite for 135B. Designed to equip the student with higher kinesthetic and kinetic ability. Basic movement experience for dance, drama, art, music as well as the general student. (4 hours activity)

140 Dance Activities (1)

A physical activity experience in dance activities with a student in an educational setting and under the direction of an instructor who directs the activity to meet the needs and interests of the student. May be repeated for credit.

210 Creative Dance for Children (3)

Prerequisites: Dance 101 and 135A,B. Designed not only for the student who is going to teach children how to create dance, but also for the student who is going to be a dance creator. Basic dance subjects in relation to the growth of children from 5 to 17 years of age. How to make a dance motif and how to compose simple dances. (2 hours lecture, 2 hours activity)

221A,B Fundamentals of Classic Ballet (2.2)

Prerequisites: Dance 135A,B, Movement and Rhythm. Fundamental structure and technique of classic ballet, based on Cecchetti method. Designed for students who aim to be professional performers or choreographers on stage, film and television. (4 hours activity)

227A,B Space Forming in Dance (3,3)

Prerequisite: Dance 135A,B. 227A is prerequisite for 227B. Theory of space and principle of space forming to train students to understand spacial movement, so that they can master movement on stage, stage design and the basic skills of choreography. (1 hour lecture, 4 hours activity)

245A,B Mime and Pantomime (2,2)

Prerequisite: 245A is prerequisite for 245B. Theory and practice of mime and pantomime for drama, dance and education (expression and gesture). Historical and contemporary knowledge and techniques with emphasis on individual development of creative skill in mime and pantomime. (4 hours activity)

255 Jazz Dance (2)

Prerequisite: Dance 101 and 135A,B. Designed to the basic rhythm of jazz and to equip the students with the technique of classic and modern jazz dances. (4 hours activity).

311A,B Elements and Forms of Dance Composition (3,3)

Prerequisites: Dance 135A,B and 227A,B. 311A is prerequisite to 311B. Basic forms and elements of dance composition will be offered; Simultaneous Symmetry, Alternate Symmetry, A-Symmetry, Simple Contrast, Compound Contrast, Balance and Unbalance, 4-units Rule, 6-units Rule, Rondo, Canon. Dances in which these rules must be applied will be composed by the student. (2 hours lecture, 2 hours activity)

331A,B Character Dance for Theatre (2,2)

Prerequisite: Dance 135A,B or consent of instructor. Basic Character Dances such as Mazurka, Czardas, Friska, Polonaise, Fandango, Tarantella, along with the Court Dances such as Minuet and Galliard. Forms and techniques as well as costume and accompanying music will be included in each character style. Designed for students who aim to be professional performers or choreographers on stage, film and television, as well as for actors and directors of theatre. Helpful for schoolteachers who direct dance production and theatre production. (4 hours activity)

335 Afro-American Dance (2)

Study of primitive and tribal rhythm including jazz and other derivational dances of Africa. (1 hour lecture, 2 hours activity)

358 Philosophy and Methodology of Educational Dance (3

Prerequisite: Dance 125A,B and Dance 311A,B or consent of instructor. A short history of dance education; principles and objectives of modern educational dance and the methodology to meet these objectives; principle and structure of curriculum for educational dance.

374A,B Dance Theatre and Production (3,3)

Prerequisite: Dance 135A,B and 227A,B or consent of instructor. Theory and practice of creative and expressive movement in relation to the theatre and dance production. (More than 9 hours production)

401A,B Criticism of the Arts (3,3)

Prerequisite: senior or graduate standing in the School of the Arts. Other majors by consent of instructor, 401A is prerequisite to 401B except by consent of instructor. Criticism which in the first semester will develop criteria and vocabulary applicable to criticism in the visual and performing arts through lectures, readings, dicussions, and attendance at exhibits and performances. Emphasis on oral and written skills in the communication of artistic concepts and critical evaluations. Second semester emphasizes the practical aspects of writing newspaper reviews and speculative essays based on musical concerts, dramatic productions, and exhibits of visual arts.

437 Music for Dance (3)

Prerequisites: Dance 374A,B or consent of instructor. Designed to give knowledge and technique of accompanying dance, in order to be able to conceive or compose music (including electronic music) for creating dance and dance drama; and to give knowledge and understanding of the structure and rhythm of dance and its relation to music for music students who are interested in composing music for dance.

441 Seminar in Ethnic Dance as Culture Phenomena (3)

Prerequisite: consent of instructor. A study of the mutual influence and relation between the religion, living form, habits and economical-political-geographical environment and dance form (including music and costume) of the major ethnic groups of the world.

450 Creative Dance for Teachers (3)

Prerequisites: Dance 135A,B and 358, or consent of instructor. Study and analysis of creative dance and its relation to dance education in elementary and secondary schools. Recommended for students of dance, theatre, music and art as well as practicing teachers. (2 hours lecture, 2 hours activity)

474 Special Studies in Dance Theatre Production (1-3)

Prerequisites: Dance 374A,B or equivalent and consent of instructor. Opportunity for intensive study in theory and practice in dance theatre and production. May be repeated to a maximum of eight units but no more than three units of credit may be obtained in a single semester. (More than 3 hours production per unit)

476A,B History of Dance (3,3)

History of dance from primitive times to the present. Covers development of dance in Europe, the Orient, Asia, America (including American Indian) in its general relation to culture history.

477 Dance Aesthetics (3)

Prerequisites: Dance 101 and 374A,B and/or consent of instructor. Philosophical as well as theoretical knowledge of dance as an art form. A study of the processes of dance creation, movement and image; the problems of music accompaniment in dance, and dance as an art form of metaphysical beauty.

482 Ethnic Dance (3)

Prerequisite: advanced preparation and/or experience in dance or consent of instructor. Theoretical and practical study of folk, square and social forms of dance in terms of cultural and environmental influences (includes geography, music, costumes, customs. (2 hours lecture, 2 hours activity)

484 Contemporary Dance Technique (3)

Prerequisite: PE 140, Dance 135A or equivalent. Study of theories, approaches, and techniques of contemporary dancers. Emphasis is on development of individual technique in dance. (2 hours lecture, 2 hours activity)

486 Choreography (3)

Prerequisite: PE 140, Dance 135A or equivalent. Theoretical and creative aspects of choreography. Application and analysis of elements of choreographic form. Composition of solo and group dances. (2 hours lecture, 2 hours activity)

499 Independent Study (1-3)

Directed reading, reports, creation and performance according to predetermined arrangements with instructor and department chairman.

585 Seminar in Educational Dance (3)

Prerequisite: consent of instructor. Discussion and analysis of principle, forms and methods of dance education in the world. Survey of the literature relating to dance education.

DEPARTMENT OF MUSIC

FACULTY

Leo Kreter

Department Chairman

David Berfield, Carole Chadwick, Andrew Charlton, Eugene Corporon, Hugh Ellison, John Farrer, Rita Fuszek, Kenneth Goldsmith, J. Justin Gray *, Burton Karson, Joseph Landon, Gary Maas, Donal Michalsky, Benton Minor, Jane Paul, Patricia Roycroft, Daniel Scott, Robert Stewart, Howard Swan, David Thorsen, Gary Unruh, Rodger Vaughan

PART-TIME

Naoum Benditzky (Violoncello), Kalman Bloch (Clarinet), Nina de Veritch (Violoncello), M'lou Dietzer (Piano), Bonnie Farrer (Piano), Pamela Goldsmith (Viola, History), Jay Grauer (String Bass), Su Harmon (Voice), Cornel Imry (Guitar), Todd Miller (French Horn, Percussion), Frederick Moritz (Bassoon), Donald Muggeridge (Oboe), Raymond Nowlin (Bassoon), Harvey Pittel (Saxophone), Dorothy Remsen (Harp), Leona Roberts (Voice), Michael Sells (Voice), Charles Shaffer (Organ), Dennis Smith (Trombone, Tuba), James Stamp (Trumpet), Susan Stockhammer (Flute), Earle Voorhies (Piano)

The Department of Music offers courses in music for both majors and non-majors. The fundamental purpose of the music major curriculum leading toward the baccalaureate degree is to provide the necessary training in each of the related aspects of music such as its history and literature, theoretical studies, and musical performance. Such a program of studies is based on the need to provide serious students with a core curriculum which will prepare the individual in such areas as (a) the knowledge of the history and relationships of music as an art form, (b) a comprehensive and analytical understanding of musical literature, (c) a working knowledge of music theory and structure, (d)

^{*} University administrative officer.

- a high degree of competence in a performing field, an (e) a specialization within the major. The music program is designed to educate:
 - Students in general, in terms of composite minors, music minors, or broad offerings in the humanities or liberal arts.
 - Students preparing to teach in the elementary and/or secondary schools, with a major field concentration in music (special music teachers).
 - Students preparing to teach in the elementary schools with a major field concentration in music (classroom teachers).
 - Students preparing to teach in the community colleges and four-year colleges with a major field concentration in music.
 - Students other than music majors preparing to teach as classroom teachers in the elementary schools.
 - Students seeking undergraduate preparation for other vocations in music, normally requiring advanced training.

REQUIREMENTS OF THE DEPARTMENT OF MUSIC

- Proficiency examinations in basic piano, voice, theory, literature and performance will be given
 to all music majors at the time of entrance to the university. Demonstrable proficiency in the
 piano and voice placement examinations will satisfy the requirement in piano and voice
 proficiency (see 5d and 7 following). Students deficient in any of the above areas will be
 advised to take additional work.
- 2. Music majors will be expected to declare a principal performance area with the approval of the faculty adviser. It will be expected that each student will demonstrate satisfactory progress within this principal performance area, culminating in the successful presentation of a senior recital before he may be approved for graduation (see Mu 498). With the written approval of the coordinator of the principal performance area, the recital requirement may be fulfilled by conducting, composition, lecture, or any combination of these with performance.
- 3. All music majors are required to participate in a major performance group (band, orchestra, opera or chorus) each semester of the regular school year (minimum: B.A. six semesters, B.M. eight semesters). Students who declare wind or percussion as their principal performance area must register for band (and/or orchestra, if designated by the instrumental coordinator); string majors must register for orchestra; and voice majors must register for chorus (or opera if designated by the choral-vocal coordinator). A music major whose principal performance area is piano or organ shall be assigned to an appropriate performance group by his faculty adviser.
- 4. All music majors whose principal performance area is an orchestral instrument or piano are expected to take part in small ensembles for a minimum of two semesters.
- The principal performance area for the major in music requires work in applied music, as follows:
 - a. Piano, voice and instrumental majors must complete a minimum of eight semesters (six semesters B.A.) of applied music in the principal performance area.
 - b. A composition major must complete eight units of applied music in a principal performance area. If he attains the 300-level of competency before completing the maximum of eight units allotted for this study, he may use the remainder of these units as music electives. The composition major must also complete six units of composition culminating in the successful presentation of a senior recital of his own compositions.
 - c. Choral or instrumental conducting majors must complete a minimum of eight semesters (six semesters B.A.) of applied music in the principal performance area, in addition to a minimum of six units in conducting.
 - d. All music majors will take the piano proficiency examination during the junior year. This requirement may also be satisfied by successful completion of Mu 282B.
- 6. Senior transfer students entering Cal State Fullerton with a major in music, or graduate students in music entering to complete credential requirements are expected to complete a minimum of one semester of successful upper division work in music before they may be approved for directed teaching. Required courses and competencies expected of all the university music majors must be satisfied before endorsement by the faculty committee for acceptance in the credential program.

116 Music

- 7. All credential candidates are required to pass functional examinations in piano and voice (in addition to the piano proficiency described in 5d above) before being approved for admittance to teacher education. This requirement may also be satisfied by successful completion of Mu 382 and 283B.
- 8. All music majors will be expected to attend a weekly departmental recital hour in conjunction with their study of applied music.
- 9. Any exception to a departmental requirement must be made by petition.

MUSIC DEGREE PROGRAMS

The Department of Music offers a variety of courses and programs leading to baccalaureate and graduate degrees in teaching and the professions. The baccalaureate degree may be earned in two degree patterns. Within these patterns, a student will normally pursue an emphasis in applied music, composition, conducting, music education, pedagogy or music history, theory and literature.

BACHELOR OF ARTS IN MUSIC

This degree is designed as a balanced program in music history, theory and literature providing suitable preparation for advanced degrees in theory, literature or musicology and basic preparation for advanced study in other fields, such as musical acoustics, music therapy, ethnomusicology, library science in music and music in industry and recreation.

The Bachelor of Arts in Music shall consist of no fewer than 55 units, of which at least 29 shall be in the upper division. The following minimum requirements are basic to this degree objective:

Music Requirements

Lower Division	Units
Music Theory (Mu 111A,B, 211)	9
Music Literature (Mu 251)	3
Applied Techniques (Ensemble 4, principal performance area 4)	8
	20
Upper Division	
Music Theory (Mu 316, 320, 321A, 422A)	9
Music History and Literature (Mu 351A, Mu 352A,B)	9
Applied Techniques (Ensemble 2, principal performance area 2)	4
Elective courses in music history and literature	13
Total	35
Grand Total	55
Allied Requirements	
Music History, Theory and Literature Emphasis	Units
1. An academic minor, with approval of the faculty adviser	20
2. Foreign language, preferably German, to be satisfied by one of the following:	
a. four years study of foreign language at the secondary school level,	
b. a pass examination given by the Department of Foreign Languages and Literatures, or	
 c. completion of the second semester of the beginning university course in foreign language. 	

BACHELOR OF ARTS IN MUSIC—MUSIC EDUCATION OPTION

This program is designed to provide in-depth preparation for teaching in the public schools under the provisions of the Teacher Preparation and Licensing Law of 1970 (Ryan Act).

The degree shall consist of no fewer than 55 units in music of which at least 29 shall be in the upper division. The following minimum requirements are basic to this degree objective:

music techniques.*

which at least 32 shall be in the upper division. The following minimum requirements are basic to this degree objective:

Lower Division was tradition managery parameters and the action could be action of the section o	Units
Music theory (Mu 111A,B, 211)	9
Music literature (Mu 251)	3
Principal performance area	4
Major performance ensemble	4
Applied techniques (by advisement)	_4
Total	24

^{*} This program can prepare the student for a teaching career as a music specialist in the public elementary or secondary schools of California. The music education emphasis is a five-year program leading toward the Standard Teaching Credential. Holders of this credential may teach music in either or both secondary and elementary public schools of California. For complete professional education requirements, see School of Education section. Students must complete Mu Ed 442 before admission to student teaching.

Upper Division	Units
Music theory (Mu 316, 320, 321A, 422A)	. 9
Music history and literature (Mu 351A,B)	. 6
Principal performance area	. 4
Major performance ensemble	. 4
Specialization in the major (by advisement)	. 23
Total	. 46
Total, lower and upper division	. 70

Minor in Music

The minor in music may be used as an appropriate area of study by persons whose majors are in other fields, or may be used to satisfy minor field requirements for elementary or secondary teaching credentials. A maximum of 12 units from the lower division may be included in work counted toward the music minor. The music minor requires a minimum preparation of 20 units.

Composite of Lower Division and Upper Division	Units
Theory of music (selected from Mu 101, 111A,B, 211 or any 300- or 400-level theory classes for which student is qualified)	6
Music history and literature (Mu 100, 251, 350 or courses at the 400- or 500-level for which student is qualified)	5–6
ments, and principal instrument or voice)	8–9
Total	20

Note: Students expecting to use the minor for teaching must complete four units of Mu 281a-d and/or Mu 381A,B Orchestral Instruments, and a minimum of two units in an ensemble appropriate to their area of specialization.

Master of Arts in Music

The program of studies leading to the Master of Arts in Music provides advanced studies in breadth as well as in an area of graduate specialization. The program is further intended to provide advanced coursework with a suitable balance in such music studies as theory, composition, history, literature and advanced applied techniques and music education. There are suitable graduate specializations in the areas of history and literature and performance.

The Master of Arts in Music is especially designed for teachers and supervisors of music; persons intending to specialize in applied fields in the pursuit of occupational goals; individuals preparing for college teaching; and persons intending to pursue advanced degrees beyond the master's level.

Prerequisites

The student must have a baccalaureate degree with a major in music (or the equivalent of a major, i.e., 29 upper division units in music). Opportunity is given the student to remove deficiencies by taking certain prescribed courses. Such courses cannot be applied to the master's degree program. The student must also take the aptitude and advanced music tests of the Graduate Record Examination and pass the graduate music placement-proficiency examinations.

Study Plan

The degree program requires 30 units of graduate study, no more than nine of which shall be outside the field of music, and at least 15 of which must be in 500-level courses in the major. The student will take Mu 500 (Introduction to Graduate Studies in Music, 2 units) within the first nine units included on the study plan in his program. The degree program offers two options: Option I in History and Literature, or Option II in Performance. A thesis or project is required in both options. In addition, in Option I the program will include at least six units of study outside the field of music, but supportive to the program. Each program is individually designed in conference with the adviser.

For further information, consult the Department of Music.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

MUSIC COURSES

100 Introduction to Music (3)

A basic approach to listening to music with understanding and pleasure through a general survey of musical literature representative of various styles and performance media. Music will be related to other arts through lectures, recordings, and concerts. Closed to music majors.

101 Music Theory for Non-Music Majors (3)

Basic theory and practical applications to further understanding of basic music principles and to improve music performance and listening skills. Includes sightsinging and relationship to keyboard and simple melodic instruments. Closed to music majors.

111A,B Music Theory (3,3)

A year course covering diatonic harmony and musicianship. Includes scales and intervals, triads and their inversions, harmonizations, nonharmonic tones, modulation and dominant seventh chords. Practical applications, to include sightsinging, dictation and keyboard harmonizations. (2 hours lecture, 2 hours activity)

171, 271, 371, 471 Individual Instruction (1-2)

Prerequisite: jury recommendation. Individual study with approved instructor with emphasis on technique and repertoire. Music majors must register for a minimum of one unit per semester. Performance majors approved by jury recommendation should register for two units per semester. Jury examination required. May be repeated for credit.

172 Piano Class for Piano Majors (1)

Prerequisite: placement by coordinator. Group instruction in basic pianistic technique and repertoire. May be repeated for credit. (2 hours activity)

173 Voice Class for Voice Majors (1)

Prerequisite: placement by coordinator. Group instruction in basic vocal technique and repertoire.

May be repeated for credit, (2 hours activity)

182A,B Piano Class for Music Majors (1,1)

Fundamentals of keyboard technique for students whose major performance instrument is not piano. (2 hours activity)

183 Voice Class for Non-majors (1)

Beginning and elementary techniques in singing for the non-music major. May be repeated for credit. (2 hours activity)

184A,B Piano Class for Non-Majors (1,1)

Prerequisite: Mu 101. Beginning and elementary instruction in basic piano techniques for the non-music major. (2 hours activity)

199 Clinical Practice in Major Performance (1)

Observation, experimentation, clinical practice of instrumental and/or choral music in applied field situations, as in public and private schools. Co-enrollment in Mu 161 recommended. (2 hours activity)

211 Chromatic Harmony (3)

Prerequisite: Mu 111B or equivalent. A continuation of Mu 111A,B with emphasis on the chromatic harmonic practice of the 18th and 19th centuries. Includes secondary dominants; ninth, eleventh, and thirteenth chords; sequence, and chromatically altered chords. Practical applications to include sightsinging, melodic and harmonic dictation, and keyboard practice. Required of all music majors. (2 hours lecture, 2 hours activity)

251 Survey of Musical Literature (3)

An introductory course required of majors in the study of the literature of music in Western civilization. Open to minors and qualified students by consent of instructor. Students should be able to read music as a part of the analysis of form, design and style. (3 hours lecture, 1 hour laboratory)

281a-g Orchestral Instruments (1) (Formerly 281a-d)

Mu 281a,c,e, and g are required of all music credential candidates. Instrumental music candidates are required to take two additional units selected from Mu 281b, d, or f. (2 hours activity)

281a String Instruments (1)

Specialization on violin and viola. Violin and viola majors substitute Mu 281b for this course.

281b String Instruments (1)

Specialization on cello and string bass. Cello and bass majors are exempt.

281c Brass Instruments (1)

Specialization on trumpet and French horn. Trumpet and French horn majors substitute 281d for this course.

281d Brass Instruments (1)

Specialization on trombone, baritone and tuba. Trombone and tuba majors are exempt.

281e Woodwind Instruments (1)

Specialization on clarinet and flute. Secondary emphasis on saxophone. Clarinet and flute majors substitute 281f for this course.

281f Woodwind Instruments (1)

Specialization on oboe and bassoon. Oboe and bassoon majors are exempt.

281g Percussion Instruments (1)

Specialization on the snare drum and mallet-played instruments with related work on other standard percussion instruments. Special consideration given to typical problems encountered with percussion in the public schools. Percussion majors are exempt.

282A,B Piano Class for Music Majors (1,1)

Prerequisite: Mu 182B or placement by instructor. Designed to meet music major minimum piano proficiency requirements for degree. Fundamentals of keyboard technique for students whose major performance field is not piano. Not required for piano majors. (2 hours activity)

283A.B Voice Class (1.1)

Prerequisite: placement by coordinator. Recommended for credential candidates. Not required for voice majors. (2 hours activity)

299 Clinical Practice in Instrumental and Vocal Techniques (1)

Clinical practice and field applications of instrumental and vocal techniques classes, as in public and private schools. Co-enrollment in Mu 271 or Mu 281 recommended. (2 hours activity)

316 16th-Century Counterpoint (2)

Prerequisite: Mu 211 or consent of instructor. Sixteenth-century counterpoint in two, three and four parts, covering motet, canon, double counterpoint. Required of all music majors pursuing the B.M. degree.

318 18th-Century Counterpoint (2)

Prerequisite: Mu 316 or consent of instructor. Eighteenth-century counterpoint in two, three and four parts, covering invention, canon, double and triple counterpoint and fugue.

320 20th-Century Harmony (2)

Prerequisite: Mu 211. A survey of the harmonic practices of the 20th century with emphasis on written exercises in the various styles. Practical applications to include sightsinging, keyboard practice, and dictation. Required of all music majors. (1 hour lecture, 2 hours activity)

321A,B Form and Analysis (3,2)

Prerequisite: Mu 211 or consent of instructor. A—Analysis of structural elements of music such as motive, phrase, and period; binary, ternary, rondo, sonato allegro and larger musical forms in representative musical works. Required of all music majors. B—Continuation of A, with emphasis on larger musical works.

323A,B Orchestration (2,2)

Prerequisite: Mu 320, 321A or consent of instructor, Writing and analysis of orchestral music.

333 Music and Child Development (3)

Prerequisite: Mu 101 or equivalent or successful completion of proficiency test. Study of the relationship of music to child growth and development, with emphasis on the child from 5 to 12.

341 Survey of the Symphony (3)

Prerequisite: Mu 100 or consent of instructor. A study of the history and literature of symphonic music from the 18th through the 20th centuries, with special emphasis on the relationships between musical composition and the general artistic temper of historical periods. For non-music majors only.

342 Survey of the Concerto (3)

Prerequisite: Mu 100 or consent of instructor. A study of the history and literature of the concerto from the 17th century to the present. The nature of the soloist and the social display of virtuosity will be considered. For non-music majors only.

343 Survey of Choral Music (3)

Prerequisite: Mu 100 or consent of instructor. A study of choral music through the ages, from Gregorian Chant to contemporary forms, concentrating on choral works of the great composers of the Baroque, Classical and Romantic eras. For non-music majors only.

350 Music in Our Society (3)

Prerequisite: Mu 100 or consent of instructor. Designed to increase interest and an understanding of music in its relation to our general culture. A sociological approach which includes musical criticism and journalism, concert life, audience psychology, and the political/religious/business aspects of the American musical scene.

351A,B History and Literature of Music (3,3)

Prerequisite: Mu 251. A—A study of the history and literature of music from early Greek beginnings through the Renaissance. B—A study of the history and literature of music covering the Baroque, Classic, Romantic period and the 20th century. Required of all music majors.

352A,B History and Literature of Music from 1600 to the Present (3,3)

Prerequisite: Mu 211 and Mu 251, or consent of instructor. A—Historical and stylistic study of music in the Baroque and Classic periods. B—Historical and stylistic study of music in the Romantic period and the 20th century. Music 352A,B are open to all music majors and may be used to replace the 351B music history requirement. If used to fulfill the music history requirements within the Music Department, both the A and the B sections of Mu 352 must be completed by the student. This course is recommended to all music majors who intend to continue music study at the graduate level.

353 Survey of Instrumental Music Materials (2)

Prerequisite: Mu 392A. Through examination and analysis of multiple examples of the repertory, this course is designed to develop skills in the practical use of instrumental literature for performance in secondary schools and community colleges.

354 Survey of Public School Choral Music Materials (2)

Prerequisite: Mu 391A. Thorough examination and analysis of multiple examples of choral repertoire suitable for junior and senior high choruses.

361a-f Major Performance Ensemble (1)

The study and performance of standard and contemporary music literature. Public concerts on campus and in the community are included in the scheduled activities each semester and participation is required. A concert tour may be included by some groups. (More than 3 hours major production.) May be repeated for credit.

361a Symphony Orchestra (1)

Open to all university students and qualified adults in the community by audition or consent of instructor.

361b University Choir (1)

Open to all university students with consent of instructor.

361c University Concert Band (1)

Open to all university students with consent of instructor.

361d Opera Theatre (1)

Study of roles and representative excerpts from standard and contemporary operas and the basic musical, dramatic and language techniques of the musical theatre. Performance of operatic excerpts and complete operas. (More than 3 hours major production)

361e University Singers (1)

Membership restricted to advanced voice students or those accepted by audition.

361f University Wind Ensemble (1)

Membership restricted to advanced wind and percussion students or those accepted by audition.

362A Wind Ensemble-Jazz Ensemble (1)

Open to qualified students by audition or consent of instructor. Public performances on campus and in the community are scheduled each semester.

362B Wind Ensemble—Varsity Band (1)

Open to all university students with consent of instructor. Varsity Band provides music for Titan football and basketball home games. Concurrent enrollment in Mu 361c is recommended.

363 Chamber Music Ensembles (1)

Open to all qualified wind, string, or keyboard students. Various ensembles will be formed to study, read, and to perform representative chamber literature of all periods. (2 hours activity)

381A Survey of Orchestral Instruments (2)

A general survey of orchestral instrument practices for elementary credential candidates. (4 hours activity)

381B Survey of Recreational Instruments (2)

A general survey of recreational instrument practices for credential candidates. (4 hours activity)

382 Piano Class (1)

Prerequisite: placement by instructor. Designed to meet functional piano requirements for credential candidates. (2 hours activity)

386 Piano Accompanying (1)
Prerequisite: by audition only. The study and performance of piano accompaniments for instrumentalists, vocalists, and ensembles. Participation in rehearsals, recitals, and concerts required. (2) hours activity)

387 Church Service Playing (2)

Prerequisite: Mu 211 or consent of instructor. Transposition and improvisation of interludes and playing of hymns, chants and accompaniments. Includes characteristics of services of various denominations and a survey of suitable organ literature. Can be repeated for credit.

390A,B,C Diction for Singers (1,1,1)

Prerequisite: sophomore standing or consent of instructor. Study of proper singing diction; may not be considered a substitute for formal language study. Examples from standard vocal literature explained through the use of the International Phonetic Alphabet. A-Italian, English. B-German. C-French.

391A.B Choral Conducting

Prerequisite: one semester of voice class or consent of instructor. A-Principles, techniques, and methods of conducting choral groups. Required of all music education majors. (4 hours activity) B-Continuation of 391A including laboratory work with class and vocal ensembles, using standard choral repertoire. (4 hours activity)

392A,B Instrumental Conducting (2,2)

Prerequisite: two courses from 281a-g or consent of instructor. A-Principles, techniques, and methods of conducting orchestral and band groups. Required of all music education majors. (4 hours activity) **B**—Continuation of 392A, including laboratory experience in conducting instrumental groups, using standard instrumental literature. (4 hours activity)

399 Clinical Practice in Conducting (1)

Clinical practice and field applications of concepts, materials, and procedures as applied to field situations, as in public and private schools. Co-enrollment in Mu 391A or 392A recommended.

401A.B Criticism of the Arts

Prerequisite: senior or graduate standing in the School of the Arts. Other majors by consent of instructor. 401A is prerequisite to 401B except by consent of instructor. Criticism which in the first semester will develop criteria and vocabulary, applicable to criticism in the visual and performing arts through lectures, readings, discussions, and attendance at exhibits and performances. Emphasis on oral and written skills in the communication of artistic concepts and critical evaluations. Second semester emphasizes the practical aspects of writing newspaper reviews and speculative essays based on musical concerts, dramatic productions, and exhibits of visual arts.

422A,B Composition (2,2) (Formerly 322A,B)

Prerequisites: Mu 316, 320 and 321A or consent of instructor. A-Ear training, analysis of smaller forms, simple composition of two- and three-part song form styles. B—Analysis and writing of more complex musical forms.

450 History and Literature of Instrumental Music (3)

Prerequisite: Mu 351A,B or consent of instructor. The development of instruments and instrumental forms from the Middle Ages to the present, with emphasis on the analysis of compositional techniques and stylistic development. (3 hours lecture and discussion, 1 hour listening)

451 History and Literature of Vocal Music (3)

Prerequisite: Mu 351A,B or consent of instructor. A study of solo and ensemble vocal literature, including opera, from the Middle Ages to the present, with emphasis on the analysis of compositional and vocal techniques and stylistic development. (3 hours lecture and discussion, 1 hour listening)

453A,B Choral Literature and Interpretation (2,2)

Prerequisites: Mu 391A or equivalent and 351A,B. A-The study of choral literature from the Medieval, Renaissance and Baroque eras analyzed in historical perspective. Appropriate performance practices will be examined. B-Continuation of A with representative examples from the Classic, Romantic and Contemporary eras.

Prerequisite: 351A,B and junior level piano standing or consent of instructor. Study and performance of representative styles and schools of piano literature, with particular reference to solo and ensemble repertoire. A—Concentration on contrapuntal forms, sonatas, and variations. B—Concentration on concerti, character pieces, fantasies, suites, and etudes.

455 Instrumental Chamber Literature and Interpretation (3)

Open to all music majors, or to non-majors by consent of instructor. Members of the class will be grouped into ensembles for demonstration purposes. Emphasis will be placed on the stylistic differences required in performing works of all periods.

456 Opera Literature and Interpretation (3)

Prerequisite: Mu 351A,B or consent of instructor. Study of all periods and nationalities, including stylistic and historical connotations.

457A Song Literature and Interpretation (2)

Prerequisite: Mu 390B or consent of instructor. Study and performance of German Lieder with representative examples of periods and styles.

457B Song Literature and Interpretation (2)

Prerequisite: Mu 390A or consent of instructor. Study and performance of Italian, French, Russian, English and American art songs, with representative examples of periods and styles.

458 Collegium Musicum Practicum (2)

Prerequisite: Mu 351A,B or consent of instructor. The study and performance of rare and old music, both instrumental and vocal. Techniques of musical research will be applied. Students should be competent performers.

467A,B Piano Pedagogy (2,2)

Prerequisite: junior piano standing or consent of instructor. Fundamentals of piano pedagogy, with reference to individual and group instruction. A—Survey of materials and methods for beginning and intermediate students. Supervised teaching. B—Survey of methods of teaching advanced technique and repertoire. Physiology and psychology of working with advanced pianist. Supervised teaching and recital preparation.

468 Vocal Pedagogy (2)

Prerequisite: senior standing or consent of instructor. Fundamentals of vocal pedagogy with reference to studio and public school teaching, with consideration of physiology and acoustics as they apply to singing. A survey of methods of teaching voice.

498 Senior Recital (1)

Prerequisite: 371-level (471-level for performance majors) and consent of instructor. Intensive preparation and presentation of representative works in the principal performance area.

499 Independent Study (1-3)

Study of a special topic in music selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

500 Introduction to Graduate Study in Music (2)

Required of all graduate music majors. Study of basic bibliography, literature, and research techniques and materials useful in graduate music study.

522 Contemporary Techniques of Composition (2)

Advanced techniques of composition, as applied to the student's area of graduate specialization.

523 Advanced Orchestration (2)

Prerequisite: Mu 323B. Analysis and practice of traditional and contemporary orchestration techniques. Scoring of music for large ensembles such as orchestra, band, chorus and orchestra, or band and orchestra.

551 Seminar in Music of the Medieval Period (2)

Prerequisite: consent of instructor. A detailed study of the music forms, structures and styles from 500 to 1450. Detailed analysis of important representative works as well as the contributions of individual composers and theoretical writers.

552 Seminar in Music of the Renaissance (2)

Prerequisite: consent of instructor. A comprehensive study of the forms, styles, and developmental characteristics of music between 1450 and 1600. Detailed analysis of selected works by representative composers and theoretical writers.

553 Seminar in Music of the Baroque Period (2)

Prerequisite: Mu 351A,B or consent of instructor. Muscal forms, styles, and performance practices of the Baroque period. Detailed analysis of significant representative works.

554 Seminar in Music of the Classic Period (2)

Prerequisite: Mu 351A,B or consent of instructor. A study of the history and literature of music from approximately 1750 to 1900. Detailed analysis of important representative works.

555 Seminar in Music of the Romantic Period (2)

Prerequisite: consent of instructor. An intensive study of the structure and development of music in the 19th century. Detailed analysis of important representative works.

556 Seminar in 20th-Century Music (2)

Prerequisite: Mu 351A,B or consent of instructor. Developments in the music of western Europe and the western hemisphere since 1890. Intensive study of contemporary music and its structure.

557 Seminar in Musicology (2)

Prerequisite: at least two courses from Mu 551–556 and consent of instructor. Detailed investigation and systematic analysis of specific developments in musicology including exercises in transcriptions from old notations and historical investigations prepared by members of the seminar.

558 Collegium Musicum (2)

Prerequisite: consent of instructor. Advanced studies in the performance of rare and old music. (See Mu 458 for general description.) May be repeated for credit.

571 Individual Instruction (1)

Prerequisite: jury recommendation. Individual instruction with approved instructor with emphasis on performance techniques and repertory. Minimum of one unit must be taken per semester. Required of all graduate students whose terminal project is the graduate recital.

591 Advanced Choral Conducting and Interpretation (2)

Prerequisite: Mu 391B, conducting experience, or consent of instructor. Advanced problems in choral conducting techniques, with emphasis on laboratory work with student groups and in concert conducting. (4 hours activity)

592 Advanced Instrumental Conducting and Interpretation (2)

Prerequisite: Mu 392B, keyboard facility for score reading and consent of instructor. Advanced study of conducting techniques through assignments with the university symphony. Interpretive problems of each period covered in lectures. (4 hours activity)

597 **Project** (3)

Systematic study and report of a significant undertaking in the area of musical composition, musical performance, or other related creative activity. A written critical evaluation of the work or activity will be required.

598 Thesis (3)

Individual investigations of specific problems in the area of concentration by candidates for the M.A. degree.

599 Independent Graduate Research (1-3)

Prerequisite: graduate standing in music and permission of instructor. Research and study projects in areas of specialization beyond regularly offered coursework. Oral and written reports required.

MUSIC EDUCATION COURSES

435 Music in the Modern Classroom (3)

Prerequisite: Mu 333 or consent of instructor. A survey of 20th-century materials and techniques, of recordings for creative movement to music, and of basic conducting techniques for song leading in the elementary school. Adaptation of materials for use in classroom music.

442 Principles and Methods of Teaching Music in the Public Schools (4)

Prerequisite: completion of all competency requirements in music, senior standing and admission to Teacher Education. History, principles of public education, grades K–12, with special emphasis on music. Philosophy, methods, materials and procedures for organizing and teaching music in elementary and secondary schools.

444 Administration, Materials and Arranging for the Marching Band (3)

Prerequisite: Mu 323A or consent of instructor. A study of techniques, materials, administration and arranging for marching band. Includes charting for the football field, parade activities, and practical experience in the scoring of music for marching band with particular emphasis on the needs of school bands. (2 hours lecture, 2 hours activity)

125

530 Practicum of Research in Music Education (2)

Prerequisites: graduate standing in music; completion of Mu 500. Research techniques and procedures in music education. Students will be required to complete a creative project or research paper.

531 Foundations of Music Education (2)

Prerequisites: graduate standing in music; completion of Mu 500. Study of the philosophical and historical bases which have influenced music education in the United States. Identification of philosophic frames of leading educators, past and present. Contemporary issues and trends which affect the teaching of music in the schools. Prerequisite for all music education courses at the graduate level.

532 Seminar in Music Education (2)

Studies in the trends and application of educational theory in relation to the teaching of music in the public schools.

544 Curriculum Planning and Construction in Music (2)

Principles and practices of curriculum planning in music education, with special reference to the public elementary, junior and senior high school. Required of majors who intend to complete supervision credential.

545 Supervision and Administration of Music in the Public Schools (2)

Open to music education majors with teaching experience. Philosophy, principles and practices of supervision of music in the public elementary and secondary schools. Emphasis on modern principles of leadership, types of services, organization, management and evaluation of programs of instruction. Required of candidates for supervisory credential.

749 Student Teaching in Music in the Secondary School and Seminar (6

Prerequisite: Mu 441, 442, 443 and Educ 449. See page 206 for description.

DEPARTMENT OF THEATRE

FACULTY

Alvin Keller

Department Chairman

Teri Allen, Ronald Dieb, Edwin Duerr, R. Terry Ellmore, Donald Henry, Dean Hess, Thomas Laga, La Nor Lollich, R. Kirk Mee, S. Todd Muffatti, Dwight Odle, Jerry Pickering, Robert Rence, Marguerite VanderHoek, Darrell Winn, James Young,* Allen Zeltzer *

The Department of Theatre program includes the several fields of playwriting, oral interpretation, acting-directing, technical theatre, theatre history and theory, radio-television and dance. Specifically, the coursework is arranged to provide opportunities for students (1) to develop an appreciation for the theatre; (2) to become aware, as audience or participants of the shaping force of the theatre in society; (3) to improve the understandings and skills necessary for work in the theatre as a profession; (4) to prepare for teaching theatre; and (5) to pursue graduate studies.

Theatre majors must maintain a 2.5 grade-point average in their major for graduation. In addition to course requirements, all students will usher for major productions at least once a semester and are required to enroll for one unit of Theatre 478 each semester.

BACHELOR OF ARTS IN THEATRE ARTS

Course programs have been planned to meet the individual needs and interests of students working for the Bachelor of Arts in Theatre Arts.

Plan I is for those who wish to study theatre as a cultural contribution or who wish to pursue graduate degrees in theatre with emphasis in theatre history and theory. It is strongly recommended that students electing this plan support the major with approved electives from art, theatre, music, foreign languages, literature, philosophy or speech.

Plan II is designed to develop the necessary competency for pursuing theatre as a profession, or for pursuing graduate degrees in theatre with an emphasis in an area of concentration other than history of the theatre. Areas of concentration are: playwriting; acting; directing; oral interpretation; radiotelevision: technical theatre and dance.

Plan III meets the requirements of the teaching credential with specialization in secondary or community college teaching. Option I: Single Subject Credential—B.A. Degree; Option II: Single

^{*} University administrative officer

Subject Credential-B.A. Degree and Continuous Fifth Year.

In addition to the requirements listed below for the major, students must meet the other university requirements for a bachelor of arts degree. Students following Plan III also must meet any specific requirements for the desired teaching credential (see section in catalog for School of Education). Those students who plan to work on the M.A. degree as well as the credential should see the chairman of the Department of Theatre.

PLAN I: THEATRE HISTORY AND THEORY EMPHASIS Lower Division: Theatre 100A,B, Introduction to the Theatre (6); Theatre 263A, Begin-	
ning Acting (3); Theatre 276A, Stagecraft (3); Theatre 277, Costume Fundamentals (3) or Theatre 285A, Theatrical Makeup (2); Theatre 211, Oral Interpretation (3)	17–18
Upper Division: Theatre 370A, Fundamentals of Directing (3); Theatre 475A,B,C,D, World Theatre (12); Theatre 477A,B, Senior Seminar in Critical Techniques (6);	nirealbus rqvaniy_
Theatre 472, American Theatre (3); electives (3 units)	27
PLAN II: PROFESSIONAL EMPHASIS IN AN AREA OF CONCENTRATION Lower Division: Same as in Plan I, with exception of acting, radio-television, dance and technical theatre.	
Upper Division: In one of the following areas of concentration:	
Playwriting—Theatre 364, Seminar in Playwriting (6), or Theatre 364 (3) and Theatre 383, Television Writing (3); Theatre 370A,B, Fundamentals of Directing (6); Theatre 468, Experimental Theatre (3); Theatre 475A,B,C,D, World Theatre (12);	
Theatre 477A,B, Senior Seminar in Critical Techniques (6)	33
Oral Interpretation—Theatre 311, Oral Interpretation (3); Theatre 411A,B,C, Oral Interpretation of Prose, Poetry, Drama (9); Theatre 414A,B, Reading Theatre (6); Theatre 475A,B,C, or D, World Theatre (6); electives selected from the following courses: Theatre 386, Stage Lighting; Theatre 472, American Theatre; Theatre	
475A,B,C, or D, World Theatre; Theatre 477A,B, Senior Seminar in Critical Techniques (6)	30
The major in theatre with an emphasis in oral interpretation requires 25 units in supportive courses from related areas such as art, anthropology, comparative literature, English literature, linguistics, speech, philosophy to be selected in consultation with the student's adviser.	hagaCaj hagaCaj halfavini joži eli
Acting—Lower Division: Theatre 100A,B, Introduction to the Theatre (6); Theatre 241, Voice Production for the Actor (3); Theatre 251, Body Movement for the Actor (3); Theatre 263A,B, Beginning Acting (6); Theatre 276A,B, Stagecraft (6); Theatre	
285A, Theatrical Makeup (2) Upper Division: Theatre 370A,B, Fundamentals of Directing (6); Theatre 363A,B, Inter-	26
mediate Acting (6); Theatre 463A,B, Advanced Acting (6); Theatre 475A,B,C,D, World Theatre (12); Theatre 480, Television Production and Direction (3) or	
Theatre 382, Television Dramatic Techniques (3); Dance electives (2)	enuos o luper en
Theatre 285A, Theatrical Makeup (2); Theatre 211, Oral Interpretation (3) Upper Division: Theatre 370A,B, Fundamentals of Directing (6); Theatre 380, Introduction to Radio & Television (3); Theatre 381, Radio & Television Announcing (3); Theatre 382, Television Dramatic Techniques (3); Theatre 383, Television Writing (3); Theatre 480, Television Production and Direction (3); Theatre 475A,B,C or	20–21
D, World Theatre (6); collateral requirements in Communications Department (3); six units chosen from advanced courses in directing, acting or technical theatre	36
Directing—Theatre 370A,B, Fundamentals of Directing (6); Theatre 470A,B, Directing (8); Theatre 475A,B,C,D, World Theatre (12); Theatre 46B, Experimental Theatre (3); Theatre 480, Television Production & Direction (3) or Theatre 382, Television	gill nati general ski adhib
Dramatic Techniques (3); electives, 6 upper division units in technical theatre Technical Production/Design Major— The technical theatre major does not divide into an upper division or lower division format. Majors will be expected to follow unit groupings for a total of 62 units.	38

unit groupings for a total of 62 units.

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Unit Group I: Basic technical class core to be taken by all majors—29 units
 Theatre 100A.B Introduction to the Theatre (6)
 Theatre 188 Historical Styles (3)
 Theatre 276A.B Beginning Stagecraft (6)
 Theatre 277 Costume Fundamentals (3)
 Theatre 285A Theatrical Makeup (2)
 Theatre 288 Design for the Theatre (3)
 Theatre 370A Fundamentals of Directing (3)
 Theatre 386 Stage Lighting (3)
Unit Group II: Choose 3 units
 Theatre 211 Introduction to Oral Interpretation (3)
 Theatre 263A Beginning Acting (3)
Unit Group III: Choose 6 units
 Theatre 475A,B,C,D World Theatre (12)
Unit Group IV: Choose 24 of the following 36 units
 Theatre 376A,B Advanced Stagecraft (6)
 Theatre 486 Advanced Stage Lighting (3)
            Audio Techniques (3)
 Theatre 387
 Theatre 388 Intermediate Scene Design (3)
 Theatre 488A.B Advanced Scene Design (6)
 Theatre 377A.B Stage Costuming (6)
 Theatre 382 Television Dramatic Techniques (3)
 Theatre 450 Theatre Management (3)
 Theatre 480 Television Production and Direction (3)
Dance—Lower Division: Theatre 100A,B Introduction to Theatre (6)
 Dance 101 Introduction to Dance (2)
 Dance 135A.B Movement and Rhythm (4)
 Dance 227A,B Space Forming (6)
 Dance 245A.B Mime and Pantomime (4)
 Two units selected from:
   Dance 125A Improvisation
   Dance 255 lazz Dance
   Theatre 277 Costume Fundamentals
 Two-three units selected from:
   Upper Division: Dance 311A,B Elements and Forms of Dance Composition (6)
 Dance 374A,B Dance Theatre Production (6)
 Dance 476A.B. History of Dance (6)
 Theatre 363A, Intermediate Acting and Characterization (3)
 Theatre 386, Stage Lighting (3)
 Three units selected from the following:
   Dance 331A.B. Character Dance for Theatre
   Theatre 370A, Fundamentals of Directing
   Theatre 377A, Stage Costuming
   Dance 450, Creative Dance for Teachers
 Three units selected from the following:
   Theatre 403, Children's Theatre
   Theatre 450, Theatre Management
   Theatre 463A, Advanced Acting
   Theatre 468, Experimental Theatre
   Theatre 470A, Directing
   Dance 474, Special Studies in Dance
   Theatre 486, Advanced Theatrical Lighting
 Six units selected from:
   PLAN III: SECONDARY OR COMMUNITY COLLEGE TEACHING EMPHASIS
Option I: Single Subject Credential—B.A.
Lower Division:
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Theatre 100A,B Introduction to the Theatre (6)
Theatre 211 Introduction to Oral Interpretation (3)

	Charles I alia	
Theatre	e 263A Beginning Acting (3)	
Theatre	2 263A Beginning Acting (3)	
Theatre	277 Costume Fundamentals (3)	
Theatre	2 276A Beginning Stagecraft and Lab (3) 2 277 Costume Fundamentals (3) 2 285 Theatrical Makeup (2) 2 288 Design for the Theatre (3)	
Theatre	288 Design for the Theatre (3)	
Total	2 288 Design for the Theatre (3) I lower division	unite
Upper Di		
Theatre	e 370A,B Fundamentals of Directing (6)	
	e 403 Theatre for Children (3)	
Theatre	e 414A Reading Theatre (3)	
Theatre	e 450 Theatre Management (3) e 470A Directing (including labs) (4)	
Theatre	e 470A Directing (including labs) (4)	
Theatre	1/2 / filleficall fileatic (5)	
Theatre	e 475A,B World Theatre (6)	9
Total	upper division28	units
Grand	d total for the major51	units
The stude	ent who returns to finish his fifth year will select a minimum of 30 units from the follo	wing
courses:		
Theatre	e 401A,B Criticism of the Arts (6) 10 man 2 and a substitute 1881 and a	
Theatre	402 Dramatic Activities for Children (3)	
Theatre	411A Oral Interpretation of Prose Literature (3)	
Theatre	411B Oral Interpretation of Poetry (3)	
Thoatro	111C Oral Interpretation of Drama (2)	
Theatre	414A Reading Theatre (3)	
Theatre	468 Experimental Theatre (6)	
Theatre	470R Directing (including labs) (4)	
Theatre	e 475C.D World Theatre (6)	
Theatre	A77A R Senior Seminar in Critical Techniques (6)	
Theatre	488A.B. Advanced Scene Design (6)	
Theatre	490 Film Aesthetics and Criticism (3)	
Theatre	e 503 Seminar: Theatre for Children (3)	
	ose students who plan to work on the M.A. degree as well as the credential should se	e the
	airman of the Department of Theatre.	
ALPESTAL SE	Theories of the state of the st	
Option II	I: Single Subject Credential—B.A. and Continuous Fifth Year	
Theatre	ivision: e 100A,B Introduction to the Theatre (6)	
Theatre	211 Introduction to Oral Interpretation (3)	
Theatre	2624 Reginning Acting (2)	
Theatre	276A Paginning Staggeraft (2)	
Theatre	e 100A,B Introduction to the Theatre (6) e 211 Introduction to Oral Interpretation (3) e 263A Beginning Acting (3) e 276A Beginning Stagecraft (3) e 285 Theatrical Makeup (2)	
Total	l lower division	unite
		uiiits
Upper Di	ivision:	
Theatre	e 370A,B Fundamentals of Directing (6) e 403 Theatre for Children (3)	
Theatre	e 403 Theatre for Children (3)	
meatre	e 414A Reading Theatre (3)	
	e 450 Theatre Management (3)	
	e 450 Theatre Management (3) e 470A Directing (including labs) (4)	
-1	4/2 American Theatre (3)	
Theatre	e 475A,B World Theatre (6) I upper division	
Total	upper division	units
	nd total for the major	units
Note: Stud	dents electing this option must see the department adviser for credential students.	
	Total Commence of the Commence	
MASTER	OF ARTS IN THEATRE ARTS	

The Master of Arts in Theatre Arts is designed to provide a program of coordinated graduate studies built on the framework of the undergraduate preparation; to provide added incentive for intellectual growth reflected in improvement in teaching and professional recognition; and to provide a sound basis for continued graduate study in the field of theatre. The student is expected to demonstrate a high degree of intellectual and creative competence and to demonstrate mastery of one of the areas of emphasis in theatre (1) theatre history, (2) dramatic literature and criticism, (3) acting and directing, (4) playwriting, (5) technical theatre, (6) oral interpretation, (7) radio and television, (8) dance, (9) theatre for children.

Prerequisites

In addition to the university requirements, students admitted to this program must have an appropriate undergraduate major in theatre, with a grade-point average of 3.0 in all upper division work in the major, or at least 24 units of appropriate upper division work in theatre, with a GPA of 3.0, before being classified. Upon recommendation of the student's graduate committee, additional prerequisistes may be required prior to classification and the approval of the area of emphasis. Students will complete an oral interview before being admitted to a program of studies.

Study Plan

The degree study plan in theatre will include at least 30 units of adviser-approved graduate studies, 15 units of which must be in 500-level courses. Each program will have 24 units in theatre, including a core of six units (Theatre 500, Introduction to Graduate Study—which must be taken the first semester of graduate study after admission to graduate study; Theatre 597, Project; or Theatre 598, Thesis); and six units of adviser-approved supporting courses in related fields either in other departments or within the Theatre Department but outside the area of emphasis. Before the degree is granted each student will pass an oral and written examination.

For further information, consult the Department of Theatre. See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

THEATRE COURSES

100A,B Introduction to the Theatre (3,3)

A study of the evolution of theatre, motion pictures, radio and television as composite arts. Emphasis is placed on the historical, dramatic, and production aspects as influenced by different cultures, traditions, and technologies. Required of all theatre majors during their freshman year.

188 Historical Styles for Theatrical Design (3)

A visual survey through lecture, pictorial sources and field trips of artistic periods throughout the ancient and modern world as a cultural foundation for beginning and advanced creative work in technical theatre. Consideration of representative artists and architects.

211 Introduction to Oral Interpretation (3)

Analysis of selections from prose and poetry, development of voice control, projection of idea and emotion studied as the basis for practical application of theories of oral interpretation of literature.

241 Voice Production for the Performer (3)

Prerequisite: consent of instructor. Fundamental techniques, methods, and training to give the actor maximum use of his voice in theatre. Correction of speech faults and regional accents. Introduction to problems of stage dialects. Study of basic interpretative material. May be repeated for credit. (1 hour lecture, 4 hours activity)

251 Body Movement for the Actor (3)

Prerequisite: consent of instructor. Fundamental work in developing the body as an expressive instrument; acquiring of strength, flexibility, relaxation, control. Establishment of an awareness of and coordination of relationship of the body to the creative project. May be repeated up to six units of credit. (6 hours activity)

263A,B Beginning Acting (3,3)

Prerequisite: 263A is prerequisite to B, or consent of instructor. Laboratory practice and discussions of the form and content of the art of acting. A—Improvisation, action, and motivation and behavior. B—Continuation of A and problems in characterization. (6 hours activity)

272 Understanding Theatre (3)

A nontechnical survey course for the general student leading to an appreciation and understanding of the theatre as a medium of communication and entertainment and as an art form. Field trips to certain significant productions. Recommended for non-majors.

276A,B Beginning Stagecraft (3,3)

Prerequisite: 276A is prerequisite to B, or consent of instructor. Study and practice in planning, constructing, painting and operating basic scenery for stage and television. Demonstrations and practice in the use of tools and standard stage equipment, in reading technical drawings and in building scenic items. Students to act as crew for productions. (More than 6 hours activity)

277 Costume Fundamentals (3)

Study of the principles and procedures of costuming theatrical and television productions. Practical experience in basic construction techniques, organizing and executing duties of the costume crew. Designed primarily for non-technical majors within the department and as an introductory course for technical majors. (More than 6 hours activity)

285A.B Theatrical Makeup (2.2)

Theory and practice in makeup for stage and television. Emphasis on development of individual skill in techniques of character analysis, application in pigment, plastic, hair makeup, and selection and use of makeup equipment. (4 hours activity)

288 Design for the Theatre (3) (Formerly Theatre 286)

Prerequisites: Art 103, 104 or Theatre 276A, or consent of instructor. Study and practice in the basic principles of designing scenery for the stage and television. Work in the designing and planning of sets for theatre productions. (Same as Art 286) (6 hours activity)

290A,B History and Aesthetics of Motion Pictures (3,3)

History and development of the motion picture as an art form and social influence. **A**—The motion picture from its origins until 1945. **B**—The contemporary cinema, from 1945 to present. (Same as Communications 290A,B)

311 Oral Interpretation (3)

Analysis of various forms of literary material, program planning, culminating in advanced application of theories of control of voice and body, and projection of idea and emotion of these literary forms to an audience.

363A,B Intermediate Acting and Characterization (3,3)

Prerequisites: Theatre 241, 251, 263A,B. A is prerequisite to B, or consent of instructor. Emphasis on extended and integrated speech and movement problems in characterization. Ensemble acting, extensive analysis and exploration and basic television techniques. (6 hours activity)

364 Seminar in Writing (3)

Prerequisite: evidence of student's previous interest in creative writing and consent of the instructor. Study of superior models, development of style, and group criticism and evaluation of each student's independent work, as it relates to playwriting. May be repeated for credit. (Same as English 364)

370A,B Fundamentals of Directing (3,3)

Prerequisite: A is prerequisite to B. Consent of instructor. The study of prerehearsal problems and procedures, of the structural analysis of plays, and of composition, picturization, pantomimic dramatization, movement, and rhythm on stage and in television. Practice in directing scenes. (6 hours activity)

376A,B Advanced Stagecraft (3,3)

Study and practice in planning and executing complex scenery and sound for stage and television. Special analysis will be placed on new materials and techniques within the field. Construction and rigging problems are executed as they appear in production. Students are crew heads for department major productions. (More than 6 hours activity)

377A,B Stage Costuming (3,3)

A—History of costume for the stage; a chronological study of fashions and textiles of major historical periods, methods of costume research, and the means of interpreting historical costume for theatrical statement. B—A study of the techniques of designing and constructing costumes of various historical periods, with emphasis on creative planning. Practical experience in solving advanced problems in costume design, construction, and organization through participation in major productions of the department. (More than 6 hours activity)

380 Introduction to Radio and Television (3)

The history and development of the broadcasting industry and its impact and influence on our society. A study of the basic broadcasting practices, audiences, production and programming. (Same as Communications 380)

381 Radio and Television Announcing (3)

Prerequisite: Theatre 211 or consent of instructor. Theory and practice of control room operation. Lectures and practice in microphone and camera techniques, commercial announcements; interviewing, sportscasting, narration, foreign pronunciation, and continuity. (6 hours activity)

382 Television Dramatic Techniques (3)

Prerequisite; consent of instructor. Television techniques and production, designed primarily for theatre majors to train the director, actor and designer in the elements of televised drama. (6 hours activity)

383 Television Writing (3)

Study of the principles and practices and experience in the writing of scripts and other forms of continuity for television. May be repeated for credit.

386 Stage Lighting (3)

Prerequisites: Theatre 276A,B or equivalent. Theory and practice in stage lighting and television presentations. Emphasis is given to design and the technology for its illumination. (More than 6 hours activity)

387 Audio Techniques (3)

Prerequisites: Theatre 276A,B or consent of instructor. Theory, procedures, and practice necessary to develop and to integrate live and recorded sound into performing arts productions. Emphasis given to recording, reproduction and studio techniques. (6 hours activity)

388 Intermediate Scene Design (3)

Prerequisite: Theatre 288. Designing stage sets on paper and in model form for a variety of productions and theatres. Work in preparing designs for practical execution as part of an actual production. (6 hours activity)

401A,B Criticism of the Arts (3,3)

Prerequisite: senior or graduate standing in the School of the Arts. Other majors by consent of instructor. 401A is prerequisite to 401B except by consent of instructor. Criticism which in the first semester will develop criteria and vocabulary applicable to criticism in the visual and performing arts through lectures, readings, discussions, and attendance at exhibits and performances. Emphasis on oral and written skills in the communication of artistic concepts and critical evaluations. Second semester emphasizes practical aspects of writing newspaper reviews and speculative essays based on musical concerts, dramatic productions, and exhibits of visual arts.

402 Dramatic Activities for Children (3)

Theory and practice in the use of creative dramatics, storytelling, puppetry, assembly programs, role-playing, and other aspects of dramatics as tools for the teacher, group worker, recreation major, and others who work with children. (6 hours activity)

403 Theatre for Children (3)

Prerequisites: Theatre 263A, 276A and 370AB or equivalent; or consent of instructor. Theories and principles of production in the formal theatre arts for children. Demonstrations of appropriate theatrical forms with analysis and evaluation. (6 hours activity)

411A Oral Interpretation of Prose Literature (3)

Relevant critical techniques are developed and applied to the study of various types of prose literature and to the development of oral interpretation skills appropriate to these types.

411B Oral Interpretation of Poetry (3)

Relevant critical techniques are developed and applied to the study of various types of poetry and to the development of oral interpretation skills appropriate to these types.

411C Oral Interpretation of Drama (3)

Relevant critical techniques are developed and applied to the study of various types of dramatic literature and to the development of oral interpretation skills appropriate to these types.

414A,B Reading Theatre (3,3)

Prerequisite: consent of instructor. Group and individual oral interpretation of literature in which emphasis is placed upon theatre of the mind. May be repeated for credit with the consent of instructor. (6 hours activity)

450 Theatre Management (3)

Prerequisite: consent of instructor. Discussion and practice of the basic elements of public relations as applied to theatre with a detailed analysis of various advertising mediums and experimentation in their use. A study of the various financial aspects of academic, community, and professional theatre operations including practical experience in front-of-the-house management and box office operation through the department's public presentations. (6 hours activity)

463A,B Advanced Acting (3,3)

Prerequisite: Theatre 363A,B. 463A is prerequisite to B, or consent of instructor. A study of historical theories and techniques of styles of acting as an art form. The first semester will include Greek through Renaissance periods and the second semester will include the Neoclassic periods to contemporary styles. (6 hours activity)

468 Experimental Theatre (3)

Prerequisite: consent of instructor. An activity course in which dramatic principles are applied through production of full length and one-act plays using various styles of acting and staging. May be repeated up to six units for credit. (More than 3 hours production per unit)

470A,B Directing (3,3)

Prerequisites: Theatre 370A,B or consent of instructor. Readings in theory, analysis of scripts and practice in directing plays for their oral and visual value as theatre. (6 hours activity)

470A,B Directing Lab (1,1)

Prerequisites: Theatre 370A,B or the consent of instructor. Requires concurrent enrollment in Theatre 470A,B. A—Each student directs public performances of a one-act play. B—Each student directs public performances of two-act plays, or equivalent. (3 hours laboratory)

472 American Theatre (3)

Prerequisite: junior standing. The development of the art of theatre in the United States from colonial times to the present day; its place and potentialities as a force in a democratic society.

475A,B,C,D World Theatre (3,3,3,3)

Examination of the historical and dramatic evolution of world theatre. A—Ancient Greece and Rome, Middle Ages; Italian Renaissance; B—England from 1558–1790; 16th- and 17th-century Spain and France; C—18th- and 19th-century Europe and Russia; 19th-century England; D—18th- and 19th-century America; the Orient; the modern world. Students registering for Theatre 475 must have completed the requirements for upper division standing.

477A,B Senior Seminar in Critical Techniques (3,3)

Theatre 477A or consent of instructor prerequisite to B. First semester presents an historical survey of major critical theories as they apply to theatre. Second semester provides the opportunity to apply critical theories to local dramatic productions.

478 Rehearsal and Performance (1)

Acting in stage productions, major technical assignments in stage productions, or participation in television or theatre for children productions. *One unit per semester required of all theatre majors. Enrollment on a credit/no credit basis only.* (More than 3 hours production per unit)

480 Television Production and Direction (3)

Prerequisite: consent of instructor. Theory and practice in the production of television programs and announcements: the planning, organizing, directing, rehearsing, performing, recording and editing of television programs and announcements. (1 hour lecture, 4 hours activity)

486 Advanced Theatrical Lighting (3)

Prerequisite: Theatre 386 or consent of instructor. The design and technology of lighting. Student will be prepared to design for the stage, dance, pageant, display, film and television. Student will do at least one major lighting project as part of the course. (6 hours activity)

488A,B Advanced Scene Design (3,3)

Prerequisite: Theatre 288, or equivalent beginning work in design. Lecture in scene design with emphasis on style, ornamentation and illusion leading to practical problems in designing for the stage and television. (Same as Art 488A,B)

491 Senior Seminar: Greek Tragedy (3)

(Same as Comparative Literature 491)

492 Film Aesthetics and Criticism (3)

Prerequisites: Theatre 290A,B and/or consent of instructor. An exploration of the nature of film and the film experience through aesthetic and theoretical bases and establishment of a critical basis for film evaluation and understanding.

499 Independent Study (1-3)

Undergraduate creative or research projects. Open to advanced students with the consent of instructor. Student must complete course application form by the end of the seventh week of the semester preceding the semester in which the work is to be done. May be repeated for credit.

133

500 Introduction to Graduate Study in Theatre (3)

Introduction to methodological problems in graduate research, Location of source materials, including library and original data; research and project design and execution; interpretation of researches. Must be taken the first semester after admission to graduate study.

Graduate Seminar: Advanced Theatre Theory and Appreciation

Prerequisite: Theatre 500. Directed research with emphasis on the relationship between historical backgrounds and developments in the theatre and the student's area of concentration.

503 Seminar: Theatre for Children (3)

Prerequisite: Theatre 403. Critical study of the historical development, philosophies, theories, techniques and trends of the art of theatre for children. Research and investigation of problems related to the use of materials in educational, community and professional children's theatres.

Graduate Seminar in Interpretation (3)

Prerequisite: consent of instructor. The historical and philosophical backgrounds in the development of interpretation and its relationship to contemporary theory and practice.

571 Graduate Seminar: Major Writers (3)

As appropriate to the specialized research of instructor, this course will offer directed research and writing, group discussion, and lectures covering major figures. May be repeated with different content for additional credit. (Same as English 571)

572 Graduate Seminar, Literary Genres (3) (Formerly 573)

Prerequisite: consent of instructor. As appropriate to the specialized research and publications of instructor, this course will offer directed research and writing, group discussion and lectures covering such major literary types as: tragedy, comedy and historical drama. With consent of adviser, may be repeated with different content for additional credit. (Same as English 572)

576 Production Planning in Theatre Arts (3) (Formerly 572)

History and philosophy of production problems in theatre arts. Organization of the university theatre as it relates to the total university program. Planning of the production within the limitations of budgets and physical facilities.

597 **Project** (3)

Prerequisites: consent of instructor, student's graduate committee and department executive committee. Development and presentation of a creative project in the area of concentration beyond regularly offered coursework. May be repeated to a maximum of six units. Student must complete course application form by the end of the seventh week of the semester preceding the semester in which the work is to be done.

598 Thesis (3)

Prerequisites: consent of student's graduate committee. Development and presentation of a thesis in the area of concentration beyond regularly offered coursework. Student must complete course application form by the end of the seventh week of the semester preceding the semester in which the work is to be done.

599 Independent Graduate Research (1-3)

Open to graduate students in theatre with the consent of instructor and student's graduate committee. May be repeated for credit. Student must complete course application form by the end of the seventh week of the semester preceding the semester in which the work is to be done.

THEATRE EDUCATION COURSES

422 Teaching Theatre in the Secondary School (4)

Prerequisite: admission to teacher education, senior standing or consent of instructor. See page 199 under Secondary Education for description of Standard Teaching Credential program. Objectives, methods, and materials including audiovisual instruction for teaching in secondary schools.

484 Educational Television Production (3)

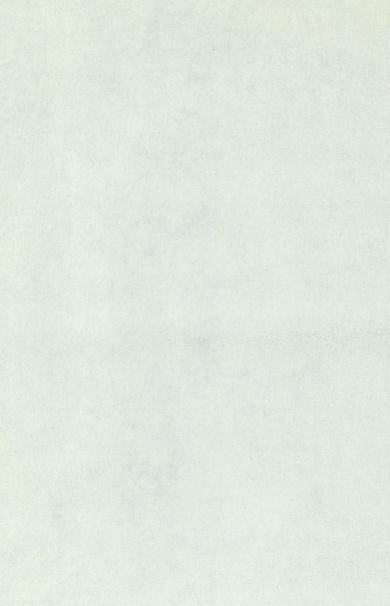
Theory and practice in the activities, methods of lesson preparation, and presentation of educational television productions.

749 Student Teaching in Theatre in the Secondary School and Seminar (6)

See page 208 for description and prerequisites.



BUSINESS ADMINISTRATION AND ECONOMICS



SCHOOL OF BUSINESS ADMINISTRATION AND ECONOMICS

Dean: Jack W. Coleman

Department of Accounting: Robert Vanasse, Chairman

Donald Barnett, Eugene Corman, A. Jay Hirsch, Robert Lamden, Glenn Lashbrook, John Williams, Dorsey Wiseman, John Woo

Department of Economics: John Lafky, Chairman

Maryanna Boynton, John Cayton, Kwang-wen Chu, Franz Dolp, Levern Graves, Sidney Klein, Wayne Lancaster, Robert Michaels, Morris Morkre, Gary Pickersgill, Joyce Pickersgill, Jack Pontney, Guy Schick, Norman Townshend-Zellner

Department of Finance: B. E. Tsagris, Chairman

Kenneth Daane, Peter Mlynaryk, John Nichols, Dennis O'Connor, Frank Roebuck, Radha Sharma, Perry Stickels, Marco Tonietti

Department of Management: Granville Hough, Chairman

Fred Colgan, James Conant, Leo Guolo, William Hellwig, Ramchand Kirpalani, Michael Lockareff, Leland McCloud, Kent McKee, Richard Mushegain, Forrest Pine, Donald Shaul, Richard Sylvester, John Trego, Edgar Wiley

Department of Marketing: Richard Buskirk, Acting Chairman

William Bell, Lynn Harris, Raymond Johnson, Irene Lange, Robert Olsen, Allan Robarts, Frank Roberts, Edward Tauber

Department of Quantitative Methods: David Stoller, Chairman

Gary Bloom, Gerald Brown, Wen Chow, Ronald Colman, Ben Edmondson, William Heitzman, James Hightower, Marshall McFie, Demetrios Michalopoulos, Phillip Mitchell, Frederick Mueller, Herbert Rutemiller, LaVerne Stanton, Donnamaie White

Academic Objectives of the School

The faculty of the school believes that it can best optimize its effectiveness in achieving the broad educational objective of the university by concentrating its energies on the exploration and teaching of relevant concepts, principles and practices, including interrelationships. Additionally, the faculty recognizes the need for integrating and relating the various disciplines into a balanced and thought-provoking educational experience for the student. While considerable emphasis must be placed on the need for breadth of knowledge and creativity in thought and actions, there must also be emphasis on exploration and analysis in some depth of those disciplines most relevant to the business profession. These disciplines are recognized to be interrelated and are to be integrated through the application of economics, behavioral and quantitative sciences, systems theories and concepts, decision theories, computer sciences, logic, and theoretical and applied research methodology.

In addition, the faculty of the school has set forth specific objectives for its curriculum and related programs. A summary statement of these objectives is as follows:

1. Educational and Professional

Through a study of the various theoretical and practical business and economic models, policies and procedures, each student is to be afforded and provided with technical expertise in a chosen discipline—accounting, economics, finance, management, marketing, quantitative methods and business education—to a depth acceptable to prospective employers for beginning professional employment.

2. Human and Ethical

A major part of effective society and business leadership is related to organization and direction of human resources to achieve general and specific goals. Therefore, a knowledge of human values—the ethical, psychological and sociological foundation for human behavior—is essential. This includes an awareness and understanding of the nature of human values, of individual goals and the forces which lead to their achievement; the function of leadership in relating individual and enterprise goals; the impact of group dynamics, informal organizations, and interpersonal relationships on the administrative process; and the need for a personal code of ethics.

3. Socioeconomic, Political and Cultural Environment
Firms do not operate in a vacuum, and information about the external forces and constraints
which bear on the enterprise comprises a necessary body of knowledge for competent business
planners and administrators. In particular, development of economic literacy to support rational
choice; recognition of economic implications resulting from economic policy decisions by
various levels of government; and a conceptualization of the impact of the various institutions
on the enterprise and the impact of business leadership decisions on the social system as a
whole are stressed.

Undergraduate Program in Business Administration and Economics

In our ever-expanding, complex society, the managers of tomorrow must be men and women with breadth of understanding and vision. Students who concentrate in a special area are encouraged to elect courses in other divisions of the university, particularly in the area of the behavioral, social, and political sciences, and foreign languages. It is assumed that the first half of their university work toward a bachelor's degree represents a required basic education in communication, mathematics, a laboratory science, social science and the humanities. Since the understanding of mathematics is becoming increasingly important in business and the social sciences, students who contemplate enrollment in either business administration or economics are encouraged to take four years of high school mathematics. College algebra, or three years of high school mathematics including a second course in algebra, will be a minimum prerequisite for entrance to the program.

If credits for either or both elementary accounting and principles of economics have not been earned, it will be necessary to enroll in these courses the first semester of the junior year.

Students enrolled in the school and working toward a university degree are subject to the general requirements of the university as to courses and credit hours required for graduation.

BACHELOR OF ARTS IN BUSINESS ADMINISTRATION

The degree requirements are as follows:

- Completion of a minimum of 50 semester credit hours in business administration and economics courses in the School of Business Administration and Economics, of which 35 semester credit hours must be upper division courses.
- 2. Completion of at least six of the 12 units of concentration and 15 of the last 24 units are required in residence in the School of Business Administration and Economics for the B.A. degree.
- 3. Completion of the required core courses in the School of Business Administration and Economics.
- Completion of 12 semester credit hours of required courses in an area of concentration to be selected by the student.
- Completion of at least 62 semester credit hours in areas other than business administration. Students may elect to apply economics core courses outside the School of Business Administration and Economics to fulfill this requirement.
- Students must attain at least a 2.0 grade point average (C average) in all university work attempted, in all courses taken in the School of Business Administration and Economics, and in his area of concentration.

CORE: The business administration and economics courses listed below are required of all students majoring in business administration:

Lower Division: Available as at any model of a language of any must be a	Units
Eco 200A,B or 210 Principles of Economics	5–6
QM 265 Computer Methods	3
Upper Division:	
Eco 310 Intermediate Microeconomic Theory or Eco 320 Intermediate Macroeconomic Theory†	3
Fin 330 Business Finance	3
Man 341 Organization and Management Theory	3

[†] Students should ascertain departmental requirement.

	Dusiness Administration	139
Mar 351	Principles of Marketing	3
QM 360	Mathematical Methods in Business and Economics or QM 363 Manage-Sciences*	9 43
	Statistical Methods in Business and Economics	3
	Seminar in Business Policies**	3
	and the same decimal to be under the section of the	38–39

Rusiness Administration

AREAS OF CONCENTRATION FOR MAJORS IN BUSINESS ADMINISTRATION

A student in business administration should select an area of concentration by the second semester of the junior year and take the required courses in the area.

Accounting

301A,B Intermediate Accounting

302 Cost Accounting

And at least one of the following courses:

308 Federal Income Tax

401 Advanced Accounting

402 Auditing

407 Integrated Data Processing Systems

Economics

310 Intermediate Microeconomic Theory

320 Intermediate Macroeconomic Theory Economics Elective, 400-level Management 446 Managerial Economics

Finance

331 Financial Analysis

And at least three additional courses offered by the Finance Department

Management

In consonance with university and school objectives, the major goals of the Management Department are to:

- 1. Provide students with foundational competence in the utilization of the factors of production.
- Develop in each student an understanding of the theory and practices needed for successful performance in managerial and staff positions in business, government and the community.
- 3. Provide students with a knowledge of human values—the ethical, psychological and sociological foundation for human behavior, and the impact of group dynamics, informal organizations, and interpersonal relationships on the administrative process.

Students with an area of concentration in management must choose one of the four following emphases:

Administrative Management Emphasis: Designed for students interested in all aspects of business or in general supervision of organized activity.

342 Production Operations

343 Personnel Management

444 Management of Systems

446 Managerial Economics or 447 Management Decision Games

Operations Management Emphasis: Designed for students who have interest in and aptitude for managing new projects and production operations in both manufacturing and non-manufacturing.

342 Production Operations

445 Advanced Production Operations

340 Fundamentals of Behavioral Science for Management or 343 Personnel Management

446 Managerial Economics or 447 Management Decision Games

* Students taking quantitative methods as their area of concentration will take QM 363, Management Science.

Students taking duanutative methods as their area of concentration will take Eco 410, Government and Business—in lieu of Man 449, Business Policies.

140 Business Administration

Industrial Relations Emphasis: * Designed for students interested in industrial relations or in managing labor unions as organized enterprises.

- 343 Personnel Management
- 444 Management of Systems
- 441 Labor-Management Relations
- 442 Labor Law

Behavioral Science for Management Emphasis:* Designed for students interested in interpersonal relations and group leadership opportunities in all organizations but specifically found in manpower management; small business, hospital and welfare administration, and organizations carrying out social change.

- 340 Fundamentals of Behavioral Science for Management
- 343 Personnel Management
- 443 Dynamics of Individual, Interpersonal, and Group Behavior for Management
- 444 Management of Systems

Marketing

- 353 Marketing Administration
- 452 Marketing Research
- 459 Marketing Problems

A minimum of one of the following courses:

- 352 Principles of Retailing
- 354 Principles of Advertising
- 355 Credit and Credit Administration
- 356 Creative Motivation in Marketing
- 357 Industrial Purchasing
- 358 Physical Distribution
- 454 Advertising Problems
- 457 Quantitive Marketing Analysis
- 458 International Marketing

Quantitative Methods

The objective of the Quantitative Methods Department is to prepare the student to utilize quantitative information and methods effectively in evaluating alternatives and making decisions. Emphasis is placed on the theory and practice of quantitative methods, especially those topics contributed by the disciplines of computer science, operations research and statistics.

Students with a quantitative methods concentration are required to take Math 150A,B, Calculus,† QM 461, Advanced Statistics, and at least three courses in a study plan approved by the student's adviser. These courses may include any of the following, as well as approved courses in other disciplines.

Computer Science

- 364 Computer Logic and Programming
- 382 Information Structures and Machine Language Programming
- 446 Computer Programming Theory
- 464 Information Retrieval and Natural Language Processing
- 484 Computer Assisted Instruction
- 485 Programming Systems and Programming Language Processing
- 486 Automata Theory
- 487 Artificial Intelligence

Operations Research

- 448 Digital Simulation
- 465 Linear Programming
- 466 Nonlinear Programming
- 490 Stochastic Process Models in Business and Industry

The student must complete two of the following collateral courses for this emphasis:
 Speech Communication 324 Dynamics of Small Group Discussion

Speech Communication 333 Communication in Business and Industry

Psychology 351 Social Psychology

Sociology 473 Complex Organizations

[†] Quantitative methods concentration students shall substitute QM 363 for QM 360 in their business core. Math 150A,B may be taken with the credit/no credit option.

Statistics

- 420 Applied Statistical Forecasting
- 422 Surveys and Sampling Design and Applications
- 467 Statistical Quality Control
- 469 Reliability Statistics
- 475 Multivariate Analysis

A student majoring in quantitative methods may also elect to minor in computer science. For details concerning the Bachelor of Science in Computer Science and the minor in computer science see page 165.

BUSINESS EDUCATION

Students who wish to major in business administration in preparation for a career as a secondary school teacher in business subjects must meet the requirements of the School of Business Administration and Economics and the secondary school teacher education program including the requirements for the proper credential as outlined in the catalog.

The requirements for a major in this area are as follows:

- 1. The core requirements as set forth for all business administration majors, page 138.
- 2. Twelve hours of advanced work in one of the six areas of concentration:
 - a. Accounting
 - b. Economics
 - c. Finance
 - d. Management
 - e. Marketing
 - f. Quantitative methods
- Meet the school's minimum requirement of 50 credit hours in business administration and economics courses.
- A maximum of 12 credit hours in the secretarial field, including those applied as electives, may count toward the degree in business administration and economics.†
- 5. Completion of at least 62 credit hours in areas other than business administration and economics are required for the degree.

Education courses required for a credential will be detailed by the School of Education.

The requirements for a minor in this area are as follows:

	Units
Eco 200A,B or 210 Principles of Economics	5-6
Acc 201A,B Elementary Accounting	6
QM 264 Computer Programming	1
One of the following:	
Mar 351 Principles of Marketing	
Fin 330 Business Finance	
Man 346 Business Law	
QM 265 Computer Methods	3
Educ 442 Teaching Business in Secondary School	2
‡Electives	6
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MASTER OF BUSINESS ADMINISTRATION

Applicants, as well as continuing students, should read carefully "The Program of Master's Degrees," page 71, and consult the *Graduate Bulletin*, particularly the "Steps in the Master's Degree Program." Note: The School of Business Administration and Economics requires that a student be classified in order to enroll in graduate courses (500-level) or receive prior permission from the associate dean, graduate programs in the School of Business Administration and Economics.

Ilnite

[†] The university does not offer work in secretarial training, typewriting, or business machines. Consult the dean of the School of Business Administration and Economics to arrange for transfer of approved courses to satisfy these requirements.

A maximum of six units of secretarial courses, including those applied as electives, may count toward the minor in business education.

Programs of Study

The School of Business Administration and Economics offers two plans for the M.B.A. degree.

Plan I is a broad, integrated program designed primarily for students with an undergraduate degree in a field other than business administration. To insure breadth in the program, the student is not permitted to take more than nine units in any one functional area.

Plan II is an integrated program allowing some concentration in an area of specialization. Under this plan the student is required to complete 12 units in an area of concentration. It is designed primarily for students with baccalaureate degrees in business administration.

The procedural steps for admission to, and completion of, the Master of Business Administration degree follow:

Admission as an Unclassified Graduate Student

- Apply for admission to the university in unclassified graduate status and declare the objective to be an M.B.A. Plan I or an M.B.A. Plan II. If the student specifies the M.B.A. Plan II, he must also specify his area of concentration. This must be accomplished at the Office of Admissions and Records before the dates established in the college calendar.
- Apply for admission to the M.B.A. program and secure informal advisement from the Graduate
 Office of the School of Business Administration and Economics. The informal advisement
 should occur at least three weeks prior to your first registration, but in any event during the
 first semester of work.
- 3. Complete the Admission Test for Graduate Study in Business with a minimum score of 450.

Admission to Classified Graduate Status

Admission to classified status in the graduate program of the School of Business Administration and Economics, California State University, Fullerton requires:

- 1. A bachelor's degree from a fully accredited college or university.
- 2. A least a 2.75 GPA on the last 50 percent of coursework at the undergraduate level.*
- Completion of the Admission Test for Graduate Study in Business with a minimum score of 450.
- 4. Completion of all prerequisite courses within a seven-year period prior to being classified with an overall GPA of 3.0 and with no grade lower than a C.
- 5. Satisfactory completion of a classification test on prerequisite courses.
- 6. Application for classified status in the office of the dean of graduate studies.
- Approval by the associate dean, graduate programs, School of Business Administration and Economics and the dean of graduate studies.

PIANI

Prerequisites

345 Suprempt Land and Congretouring well aromatic date	Units
QM 265 Computer Methods **	
Acc 300 Accounting Fundamentals	3
Eco 300 Basic Economics	3
Fin 330 Business Finance	3
Man 341 Organization and Management Theory	3
Man 346 Business Law	3
Mar 351 Principles of Marketing	3
QM 361 Statistical Methods in Business and Economics	3
nd consult the Conducte Bulletin name unity the "Steps to the Atastes's Date of Tropical	s IV msg
Total	24

^{*} Students not meeting this grade-point criteria may elect to be evaluated on the 60 sequential semester units, or equivalent, immediately preceding application for classified status, provided that these 60 units are approved by the School of Business Administration and Economics. A 3.0 CPA is required on these 60 units.

^{**} Math 120, Elementary Probability, and QM 264, Computer Programming, will satisfy the mathematics and programming requirements of QM 265, respectively.

Curriculum

Candidates under the M.B.A. Plan I Program are required to complete 30 units of which 6 units are electives. The required 24 units under this option are:

Required Courses

Acc 500	Seminar in Industrial Accounting
Acc 501	Seminar in Administrative Accounting
Eco 510	Competition, Monopoly and Public Policy
Eco 512	Comparative Economics Seminar
Fin 532	Seminar in Corporate Financial Management
Man 544	Seminar in Organizational Behavior and Administration
Mar 551	Seminar in Marketing Problems
QM 560	Operations Research or

QM 563 Quantitative Business Decision Analysis

Elective Courses

In addition to the required courses, six units shall be selected from courses offered in the School of Business Administration and Economics at the 400 or 500 level. These courses must be approved by the associate dean, graduate programs. *Under no circumstances is a 300-level course acceptable on the M.B.A. study plan.* Further, no more than nine units (combined elective and required) may be selected from any one department.

PLAN II

Prerequisites	Units
QM 265 Computer Methods*	3
Acc 201A,B Elementary Accounting	6
Eco 200A,B or Eco 210 Principles of Economics	5-6
Fin 330 Business Finance	3
Man 341 Organization and Management Theory	3
Man 346 Business Law	- 3
Mar 351 Principles of Marketing	3
QM 361 Statistical Methods in Business and Economics	3
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In addition to the prerequisites listed above, each student will be held responsible to the department of his choice for the specialized undergraduate background (prerequisites) prescribed for that area of concentration. The area of concentration shall be selected from finance, management, marketing and quantitative methods.

Curriculum

Candidates under the M.B.A. Plan II Program are required to complete 30 units of which 18 are core requirements and 12 are in the student's area of concentration:

Core

Acc 500	Seminar in Industrial Accounting or
Acc 501	Seminar in Administrative Accounting
Eco 510	Competition, Monopoly and Public Policy or
Eco 512	Comparative Economics Seminar
Fin 532	Seminar in Corporate Financial Management
Man 544	Seminar in Organizational Behavior and Administration
Mar 551	Seminar in Marketing Problems
QM 560	Operations Research or
QM 563	Quantitative Business Decision Analysis

† Accounting majors must substitute an acceptable course for Acc 500.

Math 120, Elementary Probability, and QM 264, Computer Programming, will satisfy the mathematics and programming requirements of QM 265, respectively.

Concentration

In addition to the graduate core, each student shall elect an area of concentration of at least 12 units but not more than 15 units to be approved by an adviser, the department chairman concerned, and the associate dean, graduate programs of the school. At least 24 units must be at the 500 level. The remaining 6 units may be at either the 400 level or the 500 level. *Under no circumstances is a 300-level course acceptable on an M.B.A. study plan.*

Advancement to Candidacy

Achievement of this status requires the following:

- Completion of 12 credit hours of graduate work of which 6 units must be 500-level with a minimum grade point average of 3.0.
- Completion of an application form in the office of the dean of graduate studies. Approval must be given by the adviser, the associate dean, graduate programs, of the School of Business Administration and Economics and the dean of graduate studies.

Completion

Candidates for the M.B.A. must complete the prescribed coursework of 30 units (at least 24 of which must be at the 500 level). They must satisfactorily pass a terminal evaluation and must receive the endorsement of the faculty of the School of Business Administration and Economics.

Plan I—Terminal Evaluation

Plan I students are required to participate in a management decision simulation for their terminal evaluation.

Plan II—Terminal Evaluation

Plan II students must complete the terminal evaluation required by their department.

For further information, consult the School of Business Administration and Economics Graduate Handbook, and/or the associate dean, graduate programs, in the School of Business Administration and Economics. See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

BACHELOR OF ARTS IN ECONOMICS

The economics major is designed to prepare students for positions in business, education, and government, and for graduate work in economics and related disciplines.

Advanced Placement Program in Economics

An Advanced Placement Program in Economics has been established by the Department of Economics, the Center for Economic Education, and the Center's affiliated Leadership Group of High School Teachers of Economics. Three semester-units of university academic credit in principles of economics and advanced placement are offered to students taking economics in high school who enroll in the program and pass the Advanced Placement Examination in Economics given at the university at the end of each fall and spring semester. To enroll in the program contact Dr. Norman Townshend-Zellner, director, Center for Economic Education.

Requirements

Required of all students for the degree:

- Completion of 41 semester credit hours of courses in economics and business administration
 of which 27 semester credit hours must be in upper division courses. At least 15 semester
 hours must be completed in residence in the School of Business Administration and Economics.
- Completion of the major course requirements for economics majors as listed below. Students
 in economics are required to take Quantitative Methods 265 or equivalent as prerequisite to
 Quantitative Methods 361.
- 3. Completion of at least 62 semester credit hours in areas other than economics and business administration.
- Students must attain at least 2.0 grade-point average in all college or university work attempted, and in all courses in the School of Business Administration and Economics.

Business administration and economics courses required of all students majoring in economics are listed below:

MASTER OF ARTS IN ECONOMICS

The Master of Arts in Economics is a part-time, evening (and late-afternoon) degree program, designed especially for candidates who will be employed full or part-time while working for the M.A. degree.

Total

The procedural steps for admission to, and completion of, the Master of Arts in Economics follow.

Admission Requirements

- Apply for admission to the university in unclassified graduate status and declare the objective to be a Master of Arts in Economics degree. This must be accomplished at the Office of Admissions before the dates established in the university calendar.
- 2. Apply for admission to the Master of Arts in Economics program. Please read carefully page 71, and secure informal advisement from the graduate office of the School of Business Administration and Economics. The informal advisement should occur at least three weeks prior to your first registration, but in any event during the first semester of work. Specific admission requirements include:
- a. An overall grade-point average in all undergraduate work of not less than 2.7.
- b. Completion of QM 265, Computer Methods, and QM 360, Mathematical Methods in Business and Economics, or QM 264, Computer Programming, and one semester of calculus.
- Satisfactory level of performance on the Graduate Record Examination (verbal and quantitative), aptitude only.

Prerequisites

Acceptance into the program requires the completion of the following prerequisite courses, or equivalent:

 For students without an undergraduate major in economics (a grade-point average of not less than 3.0 in the following prerequisites is required):

Principles of Economics
Intermediate Microeconomic Analysis
Intermediate Macroeconomic Analysis
Statistics (analytical)
Money and Banking

2. For students with an undergraduate major in economics: 24 semester units of work in economics or related courses (e.g., statistics), with a minimum grade-point average of 3.0. The 24 units must include the following courses or their equivalent, with a minimum grade of 3.0 in each course: Intermediate Microeconomic Analysis, Intermediate Macroeconomic Analysis, Statistics (analytical), Money and Banking.

Program of Study

1. A core of 12 graduate units in economics is required:

			Unit
	Eco 502	Advanced Microeconomic Analysis	3
	Eco 503	Advanced Macroeconomic Analysis	3
9	Eco 505	Methodology in Economic Research Seminar	3
	Eco 506	Seminar in Micro- and Macroeconomic	
	App	lications (project required)	3
	Total		12

- 2. In addition to the core, 18 units of electives are required as follows:
 - a. Eighteen units of electives at the 400 or 500 level, with a minimum of six and a maximum of 12 in a field outside of but related to economics.
 - b. At least nine units of electives must be at the 500 level, six of which must be in economics.
- c. If nine or more units are taken in fields outside of economics, at least three units must be at the 500 level.

For further information, consult the School of Business Administration and Economics *Graduate Handbook* and/or the associate dean, graduate programs, in the School of Business Administration and Economics. See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

ACCOUNTING COURSES

201A,B Elementary Accounting (3,3)

Prerequisite: Accounting 201A must be taken before taking 201B. Accounting concepts and techniques essential to the administration of a business enterprise; accounting as a process of measuring and communicating economic information; analyzing and recording financial transactions; preparation of financial statements; analysis and interpretation of financial statements; introduction to manufacturing accounts and reports; the interaction of accounting with the areas of finance, quantitative methods, interpersonal relations, motivation, and data-information systems.

300 Accounting Fundamentals (3)

Basic fundamentals of accounting as they apply to the accumulation, organization, and interpretation of financial and quantitative data relevant to the activities of the corporate business enterprise. The interaction of accounting with the areas of finance, interpersonal relations, motivation, and data-information systems. The fund flow statement. Not open to undergraduate students.

301A,B Intermediate Accounting (3,3)

Prerequisite: Accounting 201B. The quantification, recording, and presentation of balance sheet and income statement items with particular emphasis on the corporate type of organization; statement of application of funds; cash flow statement; basic concepts of accounting theory; interpretation of financial statements.

302 Cost Accounting (3)

Prerequisite: Accounting 201B. The development of accounting information for management of manufacturing enterprises; cost records; cost behavior and allocation; standard costs; and an introduction to cost control.

303 Governmental Accounting (3)

Prerequisite: one course in accounting. A consideration of the accounts and reports of nonprofit institutions, municipalities, state and federal governments; organization, procedures, budgets.

304 Managerial Accounting (3)

Prerequisite: Accounting 201B. Intended for students whose area of concentration is not accounting. Analysis, interpretation, and application of accounting information for managerial decision making; budgets and budgetary control; special-purpose reports; differential cost analyses.

305 Elements of Accounting (3)

Intended for students whose area of concentration is not accounting but computer science. Accounting concepts essential to the administration of a business enterprise; accounting as a process of measuring and communicating economic information; interaction of accounting with the areas of finance, quantitative methods, interpersonal relations, and motivation. Special emphasis on interaction of accounting with computers. Relationship of accounting to decision making. Not open to students majoring in business administration or economics.

307 Distribution Costs (3)

Prerequisites: Accounting 201B and Marketing 351. The development of quantitative measures for marketing activity; costs of distributing through different channels of distribution, advertising vs. personal selling, and movement activities; development of sales budgets, standard costs, and the analysis of actual perfomance in the light of budgets and standards.

308 Federal Income Tax (3)

Prerequisite: Accounting 201B. Basic consideration of the history, theory, and accounting aspects of federal income taxation.

401 Advanced Accounting (3)

Prerequisite: Accounting 301B. A study of partnerships, statements for special purposes, receiverships, consolidated financial statements, branch accounting and foreign exchange.

402 Auditing (3)

Prerequisites: Accounting 301B and 302. Nature of an audit, auditing standards and procedures, audit reports; professional ethics and responsibilities of the independent public accountant; introduction to internal auditing.

406 Cost Control (3)

Prerequisite: Accounting 302. A study of current and persistent problems in cost accounting; theories of cost allocation and absorption; flexible budgeting; responsibility accounting; and distribution cost control.

107 Integrated Data Processing Systems (3)

Prerequisites: Accounting 201B or 300 and QM 264 or 265. Integrated systems for the collection, processing, and transmission of information; aspects of the information service function; feasibility studies; case studies of operating systems.

408 Problems in Taxation (3)

Prerequisite: Accounting 308. Research in problems of taxation with emphasis on income taxes as they relate to corporations, partnerships and fiduciaries.

409 C.P.A. Problems and Theory (3)

Prerequisite: Accounting 401, or consent of the instructor. Selected problems and questions as found in the uniform C.P.A. examination; preparation, analysis and revision of financial statements; assets, liabilities and ownership equities; income determination; cost accounting; governmental and institutional accounting; accounting theory.

497 Business and Economic Research (3)

(Same as Business Administration 497)

499 Independent Study (1-3)

Prerequisites: senior standing and approval by department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

500 Seminar in Industrial Accounting (3)

Prerequisites: Accounting 201B, or 300, classified M.B.A. status and consent of the instructor. Accounting information for industrial management; elements of manufacturing cost; cost systems; standard costs; cost reports; distribution cost analysis.

501 Seminar in Administrative Accounting (3)

Prerequisites: Accounting 302, 304, or 500; classified M.B.A. status; and consent of instructor. The integrative aspects of accounting, financial, and other quantitative data for managerial decision-making; long-term and short-term profit planning; budgetary control; cost analysis; financial analysis and planning; taxation; and transfer pricing; and how they relate to management policy formulation and implementation.

502 Seminar in Accounting Theory (3)

Prerequisites: Accounting 301B, classified M.B.A. status and consent of the instructor. The concepts and theory of accounting; the effects of professional, governmental, business, and social forces on the evolution of accounting theory.

503 Seminar in Contemporary Financial Accounting Problems (3)

Prerequisites: Accounting 502 and classified M.B.A. status. A critical examination of the current problems and areas of controversy in financial accounting.

504 Seminar in Contemporary Managerial Accounting Problems (3)

Prerequisites: Accounting 500 or 302, classified M.B.A. status and consent of the instructor. A critical examination of the current problems and areas of controversy in managerial accounting.

505 Seminar in Auditing (3)

Prerequisites: Accounting 402 and classified M.B.A. status. Auditing theory and practices; professional ethics; auditing standards; SEC and stock exchange regulations; auditor's legal liability; statement trends and techniques.

597 Project (3)

Prerequisite: classified M.B.A. status. Directed independent inquiry.

598 Thesis (3-6)

Prerequisite: classified M.B.A. status. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

599 Independent Graduate Research (1-3)

Prerequisites: classified M.B.A. status, consent of instructor, and approval by department chairman. May be repeated for credit.

BUSINESS ADMINISTRATION COURSES

497 Business and Economic Research (3)

Prerequisites: business administration core, senior standing and consent of instructor. Application of research methods: selection and identification of a problem, determining a method of approach, collection and analysis of relevant data, eliciting conclusions and solutions.

595 Modern Capitalism (3)

Prerequisites: classified M.B.A. status and consent of instructor. The changing role of capitalism and its control in the United States, European countries and Japan. The trends as to Government policy and action, relative to private ownership and coordinated economic planning.

ECONOMICS COURSES

101 The American Economy (3) (Formerly 201)

A course specifically designed for non-majors with the purpose of introducing basic economic analysis and its application to problems such as unemployment, inflation, growth, inequality, discrimination, pollution, war and other public issues. Not open to students majoring in business administration or economics.

200A Principles of Economics (3) (Formerly 100A)

An introduction to the principles that underlie all economic analysis. Emphasis is on those forces that determine national income and the rates of employment, inflation, and growth. Includes a study of the role of money and financial capital in the economy.





200B Principles of Economics (3) (Formerly 100B)

An introduction to the principles that underlie all economic analysis. Emphasizes the allocation of resources by examining the behavior of markets, firms and industries.

210 Principles of Economics (5) (Formerly 200)

Prerequisite: open only to junior transfers. (Duplicates 200A,B). An introduction to the principles of economic analysis and policy including the central problem of scarcity, basic economic institutions of the United States, resource allocation and income distribution, economic stability and growth, and the role of public policy.

222 Economics of Utopia (3)

An economic analysis of utopian thought and attempts to create ideal economic systems. Emphasis is placed on the importance of economic structure and environment to the performance of utopian experiments.

300 Basic Economics (3)

A concentrated study of the principles of economic analysis and policy and the basic economic institutions of the United States. Not open to undergraduate students.

301 Economic Principles (3)

Prerequisite: Math 150A,B or equivalent. An introduction to economic principles for students who have a strong quantitative background, and who have a special interest in the technical areas of engineering and computer science. Not open to students majoring in business administration or economics.

310 Intermediate Microeconomic Analysis (3)

Prerequisite: Economic 200A,B or 210 or equivalent. An analysis and evaluation of (1) rational decision-making behavior of consumers and firms and (2) price and output determination in markets; with special emphasis placed on the use of cases and problems to illustrate the application of the analysis to the contemporary scene.

320 Intermediate Macroeconomic Analysis (3)

Prerequisite: Economics 200A,B or 210 or equivalent. The explanation and evaluation of the determinants of the level and fluctuations of such economic aggregates as national income and employment, with stress placed on the use of problems involving the application of analytical tools to modern macroeconomic issues.

324 Money and Banking (3)

Prerequisite: Economics 200A,B or 210 or equivalent. A study of the structure and operation of commercial banks and financial institutions including a consideration of the impact of money and capital market developments on economic activity. Not open to economics majors.

330 Comparative Economic Systems (3)

Prerequisite: Economics 200A,B or 210 or equivalent. A study of alternative economic systems with regard to their theoretical foundations, actual economic institutions, and achievements and failures. The contrast between socialist and capitalist systems will be emphasized.

331 The Soviet Economy (3)

Prerequisite: Economics 200A,B or 210 or equivalent. An analytical evaluation of Soviet economic development including the structure and performance of the Soviet economy and problems of planning and control.

332 Economic Problems of Asia (3)

Prerequisite: Economics 200A,B or 210 or equivalent. Analysis of the natural resources, population, agricultural, industrial, transportation, communications, monetary, banking, etc. problems of Asia i.e. China, Japan, etc. and the Asian subcontinent. The relations of non-economic problems to the economic are considered in detail.

333 Economic Development: Analysis and Case Studies (3)

Prerequisite: Economics 200A,B or 210 or equivalent. An examination of the processes of economic growth with special references to developing areas. Considers capital formation, resource allocation, relation to the world economy, economic planning and institutional factors, with appropriate case studies.

334 Economics of Poverty, Race and Discrimination (3)

Prerequisite: Economics 200A,B or 210 or equivalent; Economics 101 will be accepted as the prerequisite with permission of the instructor. An economic analysis of the problems and policies dealing with poverty, race and discrimination. A field investigation or project is required of each student.

350 American Economic History (3)

Prerequisite: Economics 200A,B or 210 or equivalent. The development of American economic institutions with special emphasis on economic problems, economic growth, and economic welfare.

351 European Economic History (3)

Prerequisite: Economics 200A,B or 210 or equivalent. The evolution of European economic institutions and their relation to the development of industry, commerce, transportation, and finance in the principal European countries.

360 Economics of Location (3)

Prerequisite: Economics 200A,B or 210 or equivalent. The theory and principles underlying the location of economic activity.

361 Urban Economics (3)

Prerequisite: Economics 200A,B or 210 or equivalent. Theory and analysis of the urban economy, urban economic problems and policy.

365 Public Finance (3)

Prerequisite: Economics 200A,B, or 210 or equivalent. A study of government finance at the federal, state, and local levels with particular reference to the impact of taxation and spending on resource allocation, income distribution, stabilization and growth.

370 Economics of Research, Development and Technological Change (3)

Prerequisite: Economics 200A,B or 210 or equivalent. Examination of the importance of R & D and technological change in the economy; concepts, issues, and major figures in the study of economics of technology; analytical techniques for the assessment of technological change; and evaluation of the impacts of technological change.

410 Government and Business (3)

Prerequisite: Economics 310. An economic study of business organization, conduct and performance followed by an analysis of the rationale and impact of public policy on various segments of business and business activities, including the regulated industries, sick industries and antitrust policy.

411 International Trade (3)

Prerequisite: Economics 310. An examination of the theory of international trade and the means and significance of balance of payments adjustments, with an analysis of past and present developments in international commercial and monetary policy.

412 Labor Economics (3)

Prerequisite: Economics 310. An analysis of the basic economic and institutional influences operating in labor markets. Considers relevant aspects of resource allocation, income distribution, economic stability and growth.

420 Money and Banking (3)

Prerequisite: Economics 320. A study of the money supply process and the impact of monetary policy on economic activity.

421 Monetary and Fiscal Policy (3)

Prerequisite: Economics 320. A study of the techniques of monetary and fiscal policy and an appraisal of their relative roles in promoting economic stability and growth.

440 Introduction to Econometrics (3)

Prerequisites: Economics 310, 320 and QM 360 or Math 150A. Development of advanced statistical methods and their application in economic research. Advanced concepts in model building; development of different types of economic models. The use and effect of economic models in public policy.

441 Introduction to Mathematical Economics (3)

Prerequisites: Economics 310, 320 and QM 360 or Math 150A. Selected topics in economic theory, drawn from microeconomics and macroeconomics. Content varying from year to year but with emphasis on constrained optimization problems and rational decision-making.

450 History of Economic Thought (3)

Prerequisites: Economics 310 and 320. A study of the development of economic thought as reflected in the evolution of major schools of thought and of leading individual economists as they influenced economic thought and policy.

497 Business and Economic Research (3)

(Same as Business Administration 497)

499 Independent Study (1-3)

Prerequisites: economics major or concentration, senior standing and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

502 Advanced Microeconomic Analysis (3)

Prerequisite: Economics 210 or 200A,B and 310. An advanced theoretical formulation of the principles of the determination of prices and outputs of goods and productive services in a market system. Topics include: consumer choice, demand, production, cost, the equilibrium of the firm and the market and distribution.

503 Advanced Macroeconomic Analysis (3)

Prerequisites: Economics 210 or 200A,B and 320. Advanced theory of the determination of employment, fluctuations of real and money income and the forces underlying economic growth.

505 Methodology in Economic Research Seminar (3)

Applications of statistical and econometric techniques in economic analysis. Emphasis is on practical problems in empirical research. Topics include statistical analyses of demand functions, consumption functions, cost and production functions, and models of national income determination. Practical problems involved in using multiple regression analysis are examined.

506 Seminar in Micro- and Macroeconomic Applications (3)

Prerequisites: Economics 502, 503, and 505. Complements the study of methodology in economic research. Students select approved topics and via independent investigation, seminar presentation and critique develop their analytical and research abilities, culminating with an acceptable paper.

510 Competition, Monopoly and Public Policy (3)

Prerequisite: Economics 300 or equivalent and classified M.B.A. status. Seminar devoted to an examination of the economic implications of various forms of market structure and business conduct and considers the application of public policy to various segments of business and business activities, including antitrust policy and regulation of business. (Not open to Economics M.A. candidates.)

511 Economic Problems and Public Policy (3)

Prerequisite: Economics 300 or equivalent and classified M.B.A. status. Seminar devoted to an examination of the nature and implication of the major economic problems facing the economy and an evaluation of current and alternative policies for their solution. Problems considered will include price level stabilization, balance of payments equilibrium, economic growth, and cyclical and technological unemployment. (Not open to Economics M.A. candidates.)

512 Comparative Economics Seminar (3)

Prerequisite: Economics 300 or equivalent and classified M.B.A. status. A comparative study of various analytical and prescriptive approaches to economic problems of scarcity, development, fiscal and monetary policy, planning and poverty. (Not open to Economics M.A. candidates.)

595 Modern Capitalism (3)

(Same as Business Administration 595)

596 Selected Topics in Economic Analysis and Policy (3)

Prerequisites: Economics 200A,B or 210, 310 and 320. Seminar: Selected topics in economic analysis and policy will be covered in depth, with special emphasis on contemporary research and materials. May be repeated for credit.

597 Projects (3)

Open to qualified graduate students. Directed independent inquiry.

598 Thesis (3-6)

Open to qualified graduate students. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

599 Independent Graduate Research (1-3)

Prerequisites: graduate standing, consent of instructor, and approval by department chairman. Open to qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.

FINANCE COURSES

324 Money and Banking (3)

(Same as Economics 324)

330 Business Finance (3)

Prerequisite: Accounting 201B or 300. Financing business enterprises; financial planning and control; analysis of alternative sources and uses of combinations of short-, intermediate- and long-term debt and equity. Cost of capital. Study of capital investment decisions; capital budget analysis and valuation; working capital and capital structure management.

331 Financial Analysis (3)

Prerequisite: Finance 330. Development of techniques for internal financial control and their application to business situations. Capital costs and optimal capital investment decisions. Budgets and forecasts for projection of long-term profitable operations. Analysis of current financial models. Group problems and case studies.

33 Personal Financial Management (3)

Financial problems of the household in allocating resources and planning expenditures. Consideration of housing, insurance, installment buying, medical care, savings and investments.

334 Principles of Insurance (3)

Principles of life, casualty and liability insurance, individual and group insurance programs; methods of establishing risks and rates.

335 Security Investments (3

Prerequisite: Finance 330. Principles underlying the selection and management of portfolios, analysis of different types of securities; the role of mutual funds, investment trusts and other investment institutions. Group problems and case studies.

336 Principles and Practices of Real Estate (3)

Survey of urban real estate principles and practices; structure and growth of cities; economic implication to real estate markets. Trends and factors affecting real property values, real estate financing and real estate law. Integrative cases and projects. Study of current urban models used in urban development. Group problems and case studies.

401 Real Estate Research (2)

Prerequisites: Finance 336 and 437 or 438 and concurrent enrollment for 1 unit of Finance 499. Group problems, laboratory work as determined by computer terminal availability. (2 hours lecture, 2 hours laboratory)

425 Commercial Bank and Financial Institution Management (3)

Prerequisites: Finance 330 and 331. Application of analytical techniques to the solution of financial institution problems. Major financial intermediaries and the broad range of decision-making problems they face: function, management operations, loan analysis, investment policies, and liquidity problems. Regulation and its effect on management operations. Group problems and case studies.

431 Capital and Money Markets (3)

Role of capital and money markets in the American economy; markets for new corporate and government issues; secondary markets; interrelation of financial institutions; factors influencing yields and security prices.

433 Problems in Business Finance (3)

Prerequisite: Finance 331. Comprehensive case studies including group problems of estimating funds requirements, long-term financial planning, controlling and evaluating cash flows, and financing acquisitions and mergers. Group problems and case studies.

435 Security Analysis (3)

Prerequisite: Finance 335, or consent of instructor. An advanced securities analysis course (with computer applications) developing various models of security valuation. A simulated portfolio management game is played during the latter part of the course.

436 Legal Aspects of Real Estate (3) (Formerly Management 349)

Prerequisites: Management 346 or equivalent area; Finance 336. Law of real property; types of ownership; titles and estates; transfers of interests; encumbrances; casements; fixtures; land sale contracts; recording; zoning; leases; responsibilities of real estate brokers.

437 Real Estate Finance (3)

Prerequisite: Finance 336 or consent of instructor. Sources and uses of capital in financing real estate transactions. Financial institutions and their effect on credit. Money and capital market conditions and their effect on credit availability and cost. Instruments of real estate finance. Real estate as an investment medium. Group problems and case studies.

438 Real Estate Valuation (3)

Prerequisite: Finance 336 or consent of instructor. Theory of real property value, historical development; methods used in urban and rural property appraisals; special purpose appraisals. Group problems, laboratory work as determined by computer terminal availability.

439 Social Insurance (3)

Prerequisite: Finance 330. Financial problems and policies in old age pensions, health insurance, unemployment insurance, workman's compensation, and private pension plans.

441 Business Conditions Analysis and Financial Forecasting (3)

Prerequisite: Finance 330. Role of forecasting in financial management: effect of business fluctuations on financial planning; procedures for measuring changes in business activity; methods of forecasting for the economy, the particular industry, and the individual firm.

497 Business and Economic Research (3)

(Same as Business Administration 497)

499 Independent Study (1-3)

Prerequisites: senior standing and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

532 Seminar in Corporate Financial Management (3)

Prerequisites: Finance 433 or consent of instructor and classified M.B.A. status. Emphasis in this course is on the analysis of the financial decision-making process. Areas of emphasis include: management and control of current assets; evaluation of cash flows; financial forecasting and fund requirements; capital budgeting; cost of capital; dividend policies; and merger, acquisition, and valuation problems. Current financial theory and models. Case studies and seminar presentations.

533 Seminar in Financial Administration (3)

Prerequisites: Finance 532 and classified M.B.A. status. Optimal financing and asset administration; advanced techniques of capital budgeting; application of analytical methods to the administration of the finance function of the business firm.

534 Seminar in Financial Markets (3)

Prerequisites: Finance 431 or consent of the instructor and classified M.B.A. status. Structure and operation of major financial institutions; portfolio composition, price-cost problems, and market behavior; analysis of financial intermediation and interrelation of financial institutions and markets.

535 Seminar in Investment Management (3)

Prerequisites: Finance 435 or consent of instructor and classified M.B.A. status. Problems of investment and portfolio management; concepts of risk evaluation and investment criteria; analysis of interest rate movements; investment timing; valuation of securities; regulation of securities markets.

536 Seminar in Risk Management (3)

Prerequisites: Finance 334 and classified M.B.A. status. Techniques of risk management, structure of risk management, insurance planning and control, risk management programs.

537 Seminar in Real Estate Investment (3)

Prerequisites: Finance 330, 336 or equivalent and classified M.B.A. status. Problems of real estate investment; concepts of evaluation and investment criteria; analysis of real property values; real estate development and financing.

595 Modern Capitalism (3)

(Same as Business Administration 595)

597 Project (3)

Prerequisite: classified M.B.A. status. Directed independent inquiry.

598 Thesis (3-6)

Prerequisite: classified M.B.A. status. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

599 Independent Graduate Research (1-3)

Prerequisites: classified M.B.A. status, consent of instructor, and approval by department chairman. May be repeated for credit.

MANAGEMENT COURSES

340 Fundamentals of Behavioral Science for Management (3)

Prerequisites: general education requirements for social sciences. An analysis of interpersonal behavior of individuals and groups in organizations. Attention is given to the social environment of business and to the systematic development of knowledge about human behavior, and its implications for organizational design and management practice.

341 Organization and Management Theory (3)

Prerequisites: Economics 200A,B or 210, or consent of instructor. Administrative processes and theories of organization; their applications in utility-creating business functions and operations. Concepts of planning and control, communication and information systems, measures of effectiveness, and interpersonal relationships. Relationship of business to the social and political environments. Management role of leadership in the creation of utility.

342 Production Operations (3)

Prerequisites: Management 341 and QM 265. Fundamentals of production systems which combine materials, labor, and capital resources to produce a good or service. Analysis of systems, models and methods for management of production operations. Product and process development. Case studies stress utilization of computer decision models.

343 Personnel Management (3)

Prerequisite: Management 341 or consent of instructor. A study of the personnel function, its activities, and its problems. Emphasis upon management's responsibilities for selection, development and effective utilization of personnel.

346 Business Law (3)

The philosophy, institutions and role of the law in business and society, with emphasis upon the functions of courts and attorneys, and upon case studies in the areas of contracts and the law relating to the sale of goods.

347 Business Law (3)

Prerequisite: Management 346 or equivalent. The philosophy, institutions and role of the law in business relationships, with emphasis upon case studies in the areas of agency, partnerships, corporations, bankruptcy, unfair competition and trade regulation.

348 Business Law (3)

Prerequisite: Management 346 or equivalent. The philosophy, institutions and role of the law in commercial and personal transactions, with emphasis upon case studies in the areas of personal property, bailments, commercial paper, secured transactions, real property, mortgages, trusts, community property, wills, estate administration and insurance.

441 Labor-Management Relations (3)

Prerequisite: Management 341 or consent of instructor. The course provides an understanding of the impact of labor-management relations upon labor, management, and the public. Proper grievance procedure, collective bargaining, and the settlement of disputes are among the subjects that are examined.

442 Labor Law (3)

Prerequisites: Management 341, 346 or consent of instructor. The study of labor law and its effects upon American society. Federal and state legislation, and actions of regulatory bodies are explored by means of case studies.

443 Dynamics of Individual, Interpersonal and Group Behavior for Management (3)

Prerequisites: Management 340, 341 or consent of instructor. Case studies and current literature in the human problems of work situations. Special emphasis is focused on each participant gaining knowledge about himself: his motivation as a manager, his strengths as a communicator, areas where he can improve his interaction skills, and ways he can improve the interaction processes in groups where he serves as a leader. Laboratory work offers a practical approach to these areas. (1½ hours lecture, 3 hours laboratory)

444 Management of Systems (3)

Prerequisite: QM core. The technology for managing programs, enterprises, and organizations as cybernetic systems. The course investigates the design and control of systems appropriate for product, project and program levels of analysis. (2 hours lecture, 2 hours activity)

445 Advanced Production Operations (3)

Prerequisites: Management 342 and QM core. Planning and control methodologies for production operations. Quantitative approaches which integrate cost, schedule and technical performance criteria. Collection, evaluation and use of real-time information. Individual and group projects synthesize control systems for actual cases.

446 Managerial Economics (3)

Prerequisites: QM core, Economics 310 and Management 341, or consent of instructor. A study of the relationship of management tools to applied economics and statistics in the decision-making process; the use of cases and group problems to study the true economic meaning of cost, demand, supply, price, product and competition.

447 Management Decision Games (3)

Prerequisites: business administration core less Management 449, or consent of instructor. A simulation of an oligopolistic industry to provide the student with an opportunity, through group problems, to use statistics and other analytical tools to make managerial decisions in the functional areas of management. (2 hours lecture; 2 hours activity)

449 Seminar in Business Policies (3)

Prerequisites: three elective units from among Anthropology 202, Psychology 101, and Sociology 201 or 471; Accounting 201A,B; Finance 330; Management 341, Marketing 351; QM core, senior or graduate standing, and consent of instructor. Through an analysis of integrative cases and problems from the viewpoint of top management, the student is encouraged to use his business and liberal arts training, especially his knowledge of business functions and operations, administrative processes, organization theory, and policy formulation and administration. Individual and team efforts resolve decision-making policies and actions.

497 Business and Economic Research (3)

(Same as Business Administration 497)

499 Independent Study (1-3)

Prerequisites: management concentration, senior standing, and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

541 Seminar in Project Operations Problem Solving (3)

Prerequisites: classified M.B.A. status and consent of instructor. A seminar designed to focus attention on application of system analysis and other dynamic techniques to current operations problems. Special projects are used to demonstrate application of concepts.

542 Seminar in Labor Relations (3)

Prerequisites: classified M.B.A. status and consent of instructor. Theories and philosophies of unionmanagement relations in modern industrial society with attention to trends in nonindustrial organizations. Issues in collective bargaining contract administration, labor law, and government regulation. Discussion and analysis of literature.

543 Seminar in Personnel Administration (3)

Prerequisites: classified M.B.A. status and the consent of instructor. The seminar provides the graduate student with an opportunity to study cases, problems, and significant literature in the field in order to develop a comprehensive understanding of personnel administration and human relations.

544 Seminar in Organizational Behavior and Administration (3)

Prerequisites: classified M.B.A. status and consent of instructor. The analysis of human behavior in organization, studies in organizational theories, and administrative action.

545 Seminar in Research and Development Project Management (3)

Prerequisites: classified M.B.A. status and consent of instructor. Management of R&D projects.

Techniques of preparing project proposals and assessing their economic worth. Project selection and review procedures based on performance, cost and marketing projections. Project programming and control. Establishing a creative environment.

548 Seminar in International Management (3)

Prerequisites: classified M.B.A. status and consent of instructor. Problems in managerial qualifications and training, political structure within and without the operations, foreign receptivity to United States business, organizing and controlling the international firm. Management in selected countries is examined.

549 Seminar in Policy Planning and Administration (3)

Prerequisites: classified M.B.A. status and consent of instructor. Planning, implementing, and controlling policy strategies to achieve objectives are considered. The executive's role in the overall operations of the enterprise and its resources are examined, and supported by cases, literature and training techniques in practice.

595 Modern Capitalism (3)

(Same as Business Administration 595)

597 **Project** (3)

Prerequisite: classified M.B.A. status. Directed independent inquiry.

598 Thesis (3-6)

Prerequisite: classified M.B.A. status. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

599 Independent Graduate Research (1-3)

Prerequisites: classified M.B.A. status, consent of instructor and approval by department chairman. May be repeated for credit.

MARKETING COURSES

351 Principles of Marketing (3)

Prerequisite: Economics 200A,B or 210. Marketing organization and methods for the individual business with serious consideration of the social and economic aspects of the distribution task. Topics include the consumer, his place and his problems in the marketing area; marketing functions, institutions, and policies; legal and political environment for marketing activity; and an evaluation of the present marketing system.

352 Principles of Retailing (3)

Prerequisite: Marketing 351. Retail problems of location; organization; buying; selling media and methods; pricing; and merchandising. Emphasis will be placed upon operating procedures and control, planning, budgeting, and costs.

353 Marketing Administration (3)

Prerequisite: Marketing 351. Major problems facing the marketing executive, including product planning, pricing, market analysis, sales potentials, marketing organization, and administration of the sales force.

354 Principles of Advertising (3)

Prerequisite: Marketing 351. The management of the advertising function, including the role of advertising in marketing strategy, budgetary considerations, allocation among media, measurement of effectiveness, administration and control, and its economic and social implications.

355 Credit and Credit Administration (3)

Prerequisite: Marketing 351. The general nature and functions of credit, credit instruments; the operation of the credit department; sources of credit information; acceptance of credit risk; establishment of credit limits; and the problem of collections.

356 Creative Motivation in Marketing (3)

Prerequisite: Marketing 351. Personal salesmanship and the application of the findings of the behavioral sciences to selling and group dynamics as they relate to the creative and promotional aspects of the business.

357 Industrial Purchasing (3)

Prerequisite: Marketing 351. The principles and practices of purchasing for industrial organizations. Major buying policies, sources of materials, quantity and quality considerations, and the relation to production cost.

358 Physical Distribution (3)

Prerequisite: Marketing 351. Consideration of the logistics problems of physically distributing products and the principles and practices of solving them. An evaluation of the transportation and storage of products based on considerations of cost, time, and service.

452 Marketing Research (3)
Prerequisites: Marketing 351 and QM 361. The application of scientific methodology as an aid in solving problems of product planning, pricing, promotion, and distribution. Practical application is emphasized through class projects and case problems. (2 hours lecture; 2 hours activity)

453 Marketing to the Government (3)

Prerequisite: Marketing 351. The marketing of defense and nondefense products to the government. The nature and administration of contractual agreements with government agencies.

454 Advertising Problems (3)

Prerequisites: Marketing 354 or consent of instructor. Plus senior standing. Management of the advertising function in the marketing program. A study of the formulation of advertising policies, involving primarily an analysis of cases dealing with the role of advertising in marketing, the definition and choice of advertising objectives, strategy, appropriation policy, media selection, evaluation of advertising results, and the organization and implementation of the advertising program. Cases, simulations, and readings.

457 Quantitative Marketing Analysis

Prerequisites: Accounting 201B and Marketing 351. The development of quantitative measures for marketing activity; costs of distributing through different channels of distribution, advertising versus personal selling, and movement activities; development of sales budgets, standard costs, and the analysis of actual performance in the light of budgets and standards.

458 International Marketing (3)

Prerequisites: Marketing 351 and 353; or consent of instructor. Presents an analytical framework for studying the development of domestic marketing systems in the context of overall economic growth. Emphasis is given to U. S. firms involved in international marketing operations.

459 Marketing Problems (3)

Prerequisite: Marketing 351, 353 and 452; or consent of instructor. Case studies of problems facing the marketing executive; identification and analysis of the problems; selection and evaluation of alternative solutions; and implementation of recommended solutions. Micro/macro consideration of marketing problems facing the marketing executive, the consumer and the society.

497 Business and Economic Research (3)

(Same as Business Administration 497)

499 Independent Study (1-3)

Prerequisites: marketing concentration, senior standing, and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

551 Seminar in Marketing Problems (3)

Prerequisites: Marketing 351 and classified M.B.A. status. A managerial approach to the major marketing problems faced by industry: e.g., definition of and organization for the marketing task; demand analysis; decisions concerning product, price, promotion, and trade channels. A firm's adjustment to its marketing environment with emphasis on competitive strategy. The case approach supplemented with simulations and topical readings.

552 Seminar in Pricing and Price Policy (3)
Prerequisites: Marketing 551 and classified M.B.A. status. A critical analysis of the pricing problems of a firm with alternative choices and diverse objectives. The pricing function will be examined from the standpoints of economic theory, management science, business practices, legal constraints, and ethical considerations. Relationship of pricing objectives, policies, strategies, and methods to market behavior and the goals of the firm. Pricing policies among businesses and their economic and social implications.

553 Seminar in Product Planning (3)

Prerequisites: Marketing 551 and classified M.B.A. status. A course designed to assist marketing management in the formulation and execution of marketing plans for new and existing products. An examination of the management decision areas and procedures required for search, preliminary evaluation, development and testing, and commercialization of products. Particular emphasis on solving problems arising from product programs developed to assure corporate growth.

554 Seminar in Promotion (3)

Prerequisites: Marketing 551, 452, and classified M.B.A. status. A critical analysis of the promotion mix as employed by small, medium and large business organizations in their efforts to optimize profitable operations. Particular emphasis will be given to: determination of promotional goals, planning, budgeting, and controlling promotional programs; and measuring the effectiveness of the promotional effort.

555 Seminar in Marketing Research (3)

Prerequisites: Marketing 452, 551, consent of instructor and classified M.B.A. status. The application of scientific method to marketing decisions; research methodology and models; decision-making applications.

556 Seminar in Consumer Behavior (3)

Prerequisites: Marketing 551 and classified M.B.A. status. A critical analysis of theories underlying consumer behavior. The orientation is on understanding and predicting consumer behavior.

559 Seminar in Marketing Thought and Concepts (3)

Prerequisites: Marketing 551 and classified M.B.A. status. Application of theoretical concepts in the behavioral sciences, managerial sciences and quantitative methods to the development of theories and models in marketing. The emphasis is on the interdisciplinary exchange of ideas relating to marketing. Evolving concepts and theories in marketing are appraised. May be repeated for credit.

595 Modern Capitalism (3)

(Same as Business Administration 595)

597 **Project** (3)

Prerequisite: classified M.B.A. status. Directed independent inquiry.

598 Thesis (3-6)

Prerequisite: classified M.B.A. status. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

599 Independent Graduate Research (1-3)

Prerequisites: classified M.B.A. status, consent of instructor and approval by department chairman. May be repeated for credit.

QUANTITATIVE METHODS COURSES

100 Introduction to Analysis (4)

(Preparation for calculus—same as Engineering 100 or Math 100)

210 Logic (3)

(Same as Philosophy 210)

264 Computer Programming (1)

Introduction to problem-oriented languages of computers. The solving of problems using computer programming. May be repeated for credit. (2 hours activity)

265 Computer Methods (3)

Prerequisite: college algebra or three years of high school mathematics including a second course in algebra. Introduction to sets, logic, counting, frequency distributions, and probability. Solving problems on a digital computer with a compiler language. (2 hours lecture; 2 hours activity)

280 Computer Language Survey (3)

Prerequisite: QM 264, 265, or equivalent. A study of selected computer languages and the types of problems for which they are suited. Introduction to formal language theory. Student written programs in languages typical of the major categories: numerical, data processing, string and list processing, formal structure manipulating, multipurpose and specific task oriented. (2 hours lecture, 2 hours activity)

289 Computer Methods in Social Science (3)

An introduction to the history and application of digital computers to problems in the social sciences. Basic methods of data manipulation. Student written programs in a problem-oriented computer language used for data screening, simple statistics, frequency distributions, ranking, and cluster analysis. Discussion of measurement, precision, and accuracy; computers, law and society; artificial intelligence; and other topics of current interest. (2 hours lecture, 2 hours activity)

360 Mathematical Methods in Business and Economics (3)

Prerequisite: QM 265 or equivalent. Concepts of mathematical methods and their application to business and economic problems. Elementary mathematical optimization models. Students with a quantitative methods concentration must take Math 150A,B and QM 363 in lieu of this course.

361 Statistical Methods in Business and Economics (3)

Prerequisite: QM 265 or equivalent. Collection, analysis, and presentation of statistical data. Random sampling, estimation, and hypothesis testing. Introduction to regression and correlation.

362 Introduction to Quantitative Methods in Economics (3)

Prerequisites: Economics 200A,B, QM 361 and Economics 310 (may be taken concurrently). An introduction to basic mathematical tools and their application to economic theory. The nature of econometric models and the concept of identification. Estimation and evaluation of simple single equation linear models and an introduction to such problems as autocorrelation and multicollinearity. Not open to students who have taken QM 360.

363 Management Science (3) (Formerly 463)

Prerequisites: Math 150A,B. Introduction to the basic concepts of Management Science and its relationship to economics and decision theory. Topics surveyed include optimization in continuous models, linear programming, queueing and inventory models, dynamic programming and decision-making in the business environment.

364 Computer Logic and Programming (3)

Prerequisite: QM 264, 265, or equivalent. An introductory survey of assembler language, hardware organization, design, logic, and system software of modern digital computers. (2 hours lecture, 2 hours activity)

368 First Course in Symbolic Logic (3)

(Same as Philosophy 368)

369 Second Course in Symbolic Logic (3)

(Same as Philosophy 369)

382 Information Structures and Machine Language Programming (3)

Prerequisite: QM 364. A formal discussion of information structures, the types of processes for which they are appropriate, and their relative computational efficiencies. Assignments implemented in a variety of machine languages.

420 Applied Statistical Forecasting (3)

Prerequisites: QM 361 and Economics 310 or 320. Statistical methods applied to problems in business and industry; fundamentals of index-number constructions; practical multiple regression models with computer solutions; basic techniques in time-series analysis of trend, cyclical and seasonal components; correlation of time-series and forecasting with the computer.

422 Surveys and Sampling Design and Applications (3)

Prerequisite: QM 361. Principles and methods for designing and performing business and economic surveys, with applications in accounting, marketing research, work sampling, economic statistics and the social sciences. Basic ideas and methods of sampling: simple random, stratified and multistage design. Techniques for construction of sampling frames. Techniques for detecting and controlling non-sampling errors.

446 Computer Programming Theory (3)

Prerequisite: QM 382. A study of techniques for establishing the correctness of algorithms, estimating time and storage requirements of algorithms, and selecting the operational environment and linguistic media appropriate for algorithms.

448 Digital Simulation (3)

Prerequisites: QM 280, and Math 435 or QM 461. A study of techniques of generating stochastic variates and their use in solving numerical problems and studying operational problems in queueing, communication, economic, inventory, scheduling and other models.

461 Advanced Statistics (3)

Prerequisites: QM 361 and Math 150A,B, or equivalent. An advanced treatment of the theory and application of the topics covered in QM 361, using the methods of the calculus. Moments, generating functions, point and interval estimation, Neyman-Pearson and Likelihood Ratio Hypothesis Tests.

464 Information Retrieval and Natural Language Processing (3)

Prerequisite: QM 364 or consent of instructor. An examination of modern computer hardware, the techniques of programming it, and the languages in which such programs are written. Includes discussion of memory protection, interrupt systems, recursive programming, list-structured-languages and user-oriented languages.

465 Linear Programming (3)

Prerequisite: Math 150A,B or consent of instructor. The theory and applications of linear programming. Topics include: linear programming and the simplex algorithm; starting procedures; the dual and economic interpretation; parametric programming and sensitivity analysis; and transportation and assignment problems.

466 Nonlinear Programming (3)

Prerequisites: QM 465, Math 281, or consent of instructor. A unified study of nonlinear programming theory with emphasis on computational algorithms and industrial applications. Topics will include: Kuhn-Tucker theorem, duality, quadratic programming, integer programming, dynamic programming, search techniques, and post-optimality analysis.

467 Statistical Quality Control (3)

Prerequisites: QM 361. Shewhart Control Charts for variables, percent defective, and defects. Tolerances, process capacity, special control charts, acceptance sampling, and batch processing problems. Bayesian aspects of process control.

468 Seminar in Symbolic Logic (3)

(Same as Philosophy 468)

469 Reliability Statistics (3)

Prerequisite: QM 461 or equivalent. Statistical principles of reliability; hazard functions; point and interval estimation of reliability; reliability demonstration; growth models.

475 Multivariate Analysis (3)

Prerequisite: QM 461, or equivalent. The least squares principle; estimation and hypothesis testing in linear regression; multiple and curvilinear regression models; discriminant analysis; principal components analysis; application of multivariate analysis in business and industry.

484 Computer Assisted Instruction (3)

Prerequisites: QM 264 and consent of instructor, knowledge of computer organization, terminology, and experience in programming. A survey of computer-assisted and computer-based instruction consisting of a review of present research activities and including: methodology of educational approaches, implementations, and present achievements.

485 Programming Systems and Programming Language Processing (3)

Prerequisite: QM 382. A study of monitor, assembler, and compiler systems and the hardware, firmware, and software characteristics required in a real-time, interactive environment.

486 Automata Theory (3)

Prerequisites: QM 382 and Math 250, or consent of instructor. A formal introduction to the theory of computation and its relation to modern computing techniques. Includes development of Turing machines, recursive functions, equivalence theorems, and the algebraic theory of recognizers.

487 Artificial Intelligence (3)

Prerequisite: QM 382. Selected topics of current interest from heuristic programming, pattern recognition, learning systems, problem solving systems, and formal symbol manipulating systems.

490 Stochastic Process Models in Business and Industry (3)

Prerequisites: QM 461, Math 281, or consent of instructor. Models of industrial waiting line and storage systems. Markov chains, single and multiple server models, discrete and continuous processes, and homogeneous birth and death processes.

497 Business and Economic Research (3)

(Same as Business Administration 497)

499 Independent Study (1-3)

Prerequisites: quantitative methods concentration, senior standing, and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

560 Operations Research (3)

Prerequisites: Math 150A, QM 361 and classified M.B.A. status. An examination of the nature and scope of Operations Research, with emphasis on the techniques of model construction. Topics surveyed include optimization in continuous models, linear programming, queueing and scheduling models, inventory models, dynamic programming, and decision-making under uncertainty. (Not open to students with QM 363)

561 Seminar in Operations Research (3)

Prerequisites: QM 560 or consent of instructor and classified M.B.A. status. A particular topic in Operations Research, such as simulation, inventory theory, waiting line theory, or synthesis of large scale systems will be covered in depth with special emphasis on research methods.

563 Quantitative Business Decision Analysis (3)

Prerequisites: QM 361 and classified M.B.A. status. Techniques from probability, statistical decision theory, and computer simulation applied to problems of management.

565 Seminar on Computers in Industry (3)

Prerequisites: consent of instructor and classified M.B.A. status. An examination of developments and innovations concerning computers in industry. Artificial intelligence, information retrieval, and time sharing.

566 Design of Experiments (3)

Prerequisites: QM 361 and classified M.B.A. status. A survey of the fundamentals of experimental design, including analysis of variance, factorial experiments, nested designs, confounding, and fractional replication.

571 Seminar in Quantitative Methods of Policy Analysis (3)

Prerequisites: QM 363 or 560 and classified M.B.A. status. The synthesis, analysis and evaluation of policy alternatives through the use of quantitative methods. The analyst's role in evaluating operations of an enterprise is demonstrated by individual and team efforts in the design, development, performance and communication of results of operations research projects.

597 **Project** (3)

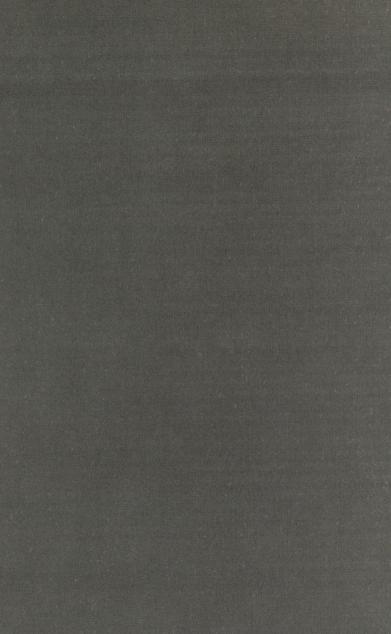
Prerequisite: classified M.B.A. status. Directed independent inquiry.

598 Thesis (3-6)

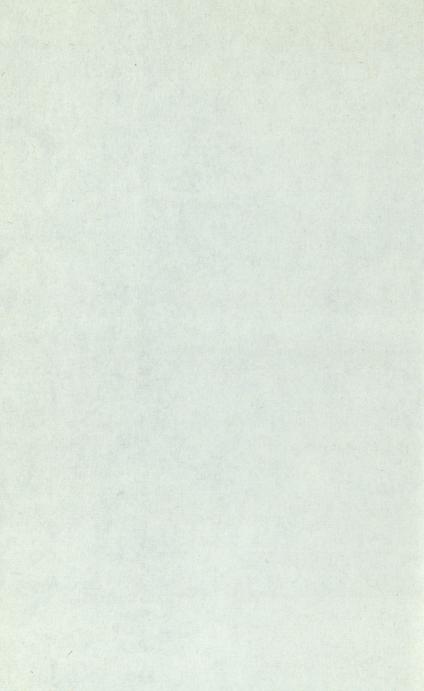
Prerequisite: classified M.B.A. status. Student will select and have approved a thesis topic, show evidence of original research and must present himself for a defense of the thesis before a faculty committee.

599 Independent Graduate Research (1-3)

Prerequisites: classified M.B.A. status and approval by the department chairman. May be repeated for credit.



Computer Science



COMPUTER SCIENCE PROGRAM

Chairman: Herbert C. Rutemiller

Computer science degree programs are administered by the Computer Science Council, an interdisciplinary group representing the Department of Mathematics, the Department of Quantitative Methods and the School of Engineering.

FACULTY

Wen Chow, Ronald Colman, Walter Hudetz, Eugene Hunt, Ronald Miller, Sam Pierce, Jesus Tuazon, Yun-Cheng Zee

The Association for Computing Machinery has given the following discipline description of computer science:

"Computer science is not simply concerned with the design of computing devices—nor is it the design of computing devices—nor is it just the art of numerical calculation, as important as these topics are. Computer science is concerned with *information* in much the same sense that physics is concerned with energy; computer science is devoted to the representation, storage, manipulation and presentation of information in an environment permitting automatic information systems.

. . . All forms of information—numeric, alphabetic, pictorial, verbal, tactile, olfactory, etc.—are of interest to computer science."

The computer scientist is interested in effective ways to present information, algorithms to transform information, languages in which to express algorithms, effective means to monitor the process and display transformed information, and effective ways to accomplish these goals at reasonable cost.

B.S. IN COMPUTER SCIENCE

The degree requires completion of 54 units of basic courses which include courses in mathematics and statistics as well as in computer languages, information structures and computer logic design. Fifteen additional units are required beyond the basic courses. Considerable flexibility is provided to the student in that he may elect a 15-unit concentration in mathematics, engineering or quantitative methods. The student's grade-point average must be at least 2.0 for the 69 units required for the major, and none of these may be taken on a credit-no credit basis.

Required courses are as follows:

Lower Division	21
Mathematics 150A,B Analytic Geometry and Calculus (8)	
Mathematics 250 Intermediate Calculus (4)	
Mathematics 281 Linear Alegebra with Differential Equations (3)	
Quantitative Methods 265 Computer Methods (3) or Engineering 205 Digital Computation (3)	
Quantitative Methods 280 Computer Language Survey (3)	
Upper Division	33
Quantitative Methods 364 Computer Logic and Programming (3)	
Quantitative Methods 382 Information Structures (3)	
Quantitative Methods 485 Programming Systems (3)	
Engineering 402 Digital Logic (3)	
Mathematics 340 Numerical Analysis (3)	
Mathematics 335 Mathematical Probability (3) or Engineering 423 Engineering Probability and Statistics (3)	
Mathematics 435 Mathematical Statistics (3) or Quantitative Methods 461 Advanced Statistics (3)	
Quantitative Methods 448 Digital Simulation (3)	
Quantitative Methods 363 Introduction to Management Science (3)	
Economics 301 Economic Principles (3)	
Accounting 305 Elements of Accounting (3)	
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Units

168 Computer Science

A minimum of 15 units of upper division electives, selected to comprise a concentration in one of the three areas: Engineering, quantitative methods or mathematics. The 15 units may include courses in other areas besides the concentration, but all electives must be approved by the student's adviser.

All courses within the computer science program originate in other departments within the university. Students should refer to the department originating the course for description.

MINOR IN COMPUTER SCIENCE

Students majoring in other fields, including those without an extensive mathematics background, may earn a minor in computer science. A minimum of 21 units of computer science are required for a minor. These shall include Quantitative Methods 265, Quantitative Methods 289 or Engineering 205 in addition to Quantitative Methods 280 and either Quantitative Methods 364 or Engineering 402, and a minimum of four courses (at most two from the same area) selected from the following upper division courses in the indicated areas:

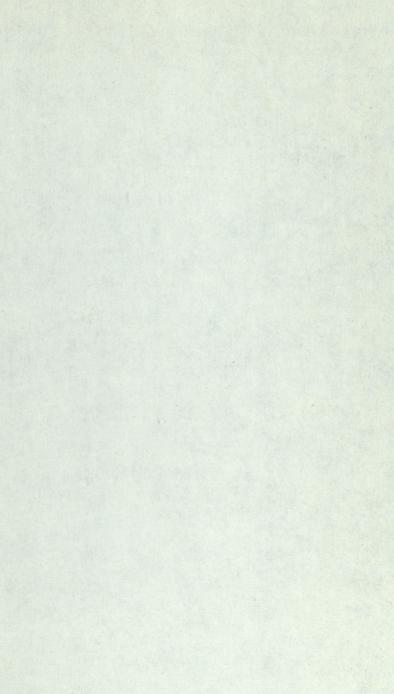
Engineering: 317, 402, 403*, 405, 424, 458

Mathematics: 335, 340*, 435*, 440

Quantitative Methods: 364, 382, 446, 448, 461*, 464, 485, 487

Students must have a 2.0 grade-point average or better in the minor. These courses may not be taken on a credit/no credit basis.

^{*}Not both Mathematics 435 and Quantitative Methods 461 nor both Mathematics 340 and Engineering 403 may be used to fulfill minor requirements.





EDUCATION

152-2 2 165



SCHOOL OF EDUCATION

Acting Dean: Ida S. Coppolino

DEPARTMENT OF BEHAVIORAL SCIENCES IN EDUCATION

FACULTY

Calvin Nelson

Department Chairman

Marilyn Bates, James Bennett, Louis Brockmann, Ida Coppolino,* James Gilmore, David Kiersey, Frederick Kingdon, Doyle Knirk, Anne Langstaff, Robert Lemmon, Lester March, Fraser Powlison, Richard Rogal, Leo Schmidt, Shirley Schaefer, Shirl Stark

The courses and programs of the department are designed to fulfill the following objectives of students:

- 1. Master of Science in Education with a concentration in counseling.
- 2. Master of Science in Education with a concentration in special education.
- Preservice teacher training for teachers of the educationally handicapped and the mentally retarded.
- 4. Professional training for pupil personnel services in the public schools.
- Psychological foundations requirements for the preservice training of elementary, secondary and special education teachers.

Instruction is centered about the scientific treatment of behavior change in educational settings. The objective of the program is to develop student competencies in the selection, development, application and evaluation of materials and procedures necessary for the modification and optimum development of human behavior. Though there is a primary commitment to the public school as a behavior change agency in our culture, the department's program is viewed as having application to educational decision-making situations outside the schools.

PUBLICATIONS AVAILABLE FROM THE DEPARTMENT

- 1. Master of Science in Education, School Counseling.
- 2. Master of Science in Education, Special Education.
- 3. Preparation of Teachers of the Mentally Retarded Children Programs.
- 4. Special Education Newsletter.

PRESERVICE EDUCATION

Cal State Fullerton is accredited by the California State Board of Education for programs leading to the following credentials offered by the Department of Behavioral Sciences in Education:

- 1. Restricted teaching credential for services as a speech and hearing specialist.
- 2. Restricted teaching credential to teach the trainable mentally retarded.
- 3. Restricted teaching credential to teach the educable mentally retarded.
- 4. Standard designated services credential with a specialization in pupil personnel services.

Details of the programs are provided in special brochures available from the Department of Behavioral Sciences in Education. Information about the professional services authorized by the above credentials will be provided by professional advisers.

PERSONNEL SERVICES FOR TEACHER EDUCATION STUDENTS

Advisement is available to any student seeking a credential offered by the department and a bachelor of arts degree at this university. During registration, the student should consult an adviser in the department in which he expects to major and an adviser in the Department of Behavioral Sciences

^{*} University administrative officer.

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in Education who will help him select courses and build his program. A student from another institution should bring transcripts of previous work and a tentative selection of courses. Transferred education courses must be of upper division level and taken within the past 15 years to be applicable to upper division credential requirements.

ADMISSION TO SPECIAL EDUCATION CREDENTIAL

To become a candidate for a teaching credential the student must be enrolled, in good standing, and must be admitted to "teacher education" in the Office of Admission to Teacher Education of the School of Education. Application for admission to teacher education should be filed during the first semester of the junior year or the first semester of attendance at the university, if the student enters with advanced standing.

Admission to teacher education is required of each student before he files the application for student teaching.†

A faculty committee will review information concerning the applicant's intellectual resources and mastery of important concepts in the common curricular areas of higher education, command of fundamental skills of communication (English language, usage, written composition, speech, hearing, reading comprehension, handwriting, mathematical skills), scholarship, personality and character, interest in teaching, and health. Data related to these criteria are gathered from transcripts and records from other schools and universities, group and individual tests, personality inventories, estimates of the potential of the applicant, and from the Student Health Center. Students should normally qualify for admission and be advised of their status during the second semester of the junior year or their first semester of attendance if they enter with advanced standing with degrees from accredited colleges or universities.

Students who show weaknesses in any of the fundamental skills of communication are advised of their standing. If there are weaknesses in only one or two of the areas noted above, the student will be advised of refresher courses and given a specified time to meet the standard.

If the applicant has serious deficiencies in communication skills or does not meet the standards of mastery in the common curricular areas, personality and character, scholarship, interest in teaching, or health, the faculty committee will deny admission to teacher education.

The student must arrange to take the required battery of group and individual tests and inventories necessary to provide information needed by the faculty committee. The tests of breadth of understanding, reading, English usage, number skills, composition, handwriting, and personality are given by the School of Education for admission to teacher education; consult the Office of Admission to Teacher Education of the School of Education for dates.

STUDENT TEACHING

Each candidate for a credential to teach the mentally retarded, the restricted credential to teach the educable mentally retarded, or the restricted credential to teach the trainable mentally retarded (REX Program) will do his student teaching during the last semester of his senior year or during his postgraduate year in the university. Persons seeking the credential to teach the mentally retarded will divide their student teaching experience with elementary or secondary student teaching. Details about student teaching may be obtained from the departmental office. Student teaching assignments are made in elementary and secondary schools geographically accessible to the university. Students will be assigned to work under the supervision of carefully selected supervising teachers. A university supervisor will regularly visit the student teacher and the supervising teacher. Student teachers will be expected to meet in a weekly seminar with the university supervisor.

Permission to Substitute Teaching Experience for Student Teaching

A candidate for a teaching credential who has had two years of successful, regular teaching experience must petition the School of Education, through his professional adviser, for permission to substitute such experience for the student teaching requirement. Substitution of teaching experience for student teaching will be considered only if the applicant:

- 1. Has been admitted to teacher education at the university.
- Has submitted an official verification from his former supervisor, principal, or superintendent to the School of Education certifying at least two years of successful, regular teaching experience at the appropriate level. A form for this verification is available in the Office of the School of Education.

[†] Exceptions will be made in the case of new transfer students.

STATUTORY REQUIREMENTS FOR CREDENTIALS FOR TEACHING

The curricular requirements for credentials for teaching in special education are included in the curricula descriptions. Upon the completion of the requirements, the student will submit an application for a credential to the State Department of Education in Sacramento. On these applications the student is asked about his citizenship status, his professional conduct, and he is asked to sign an oath of allegiance. He must also submit a health examination form signed by a qualified physician, two fingerprint-identification cards and the legal fee, which is currently \$20. The forms are available in the Credentials Office of the university.

Curricula in Preparation of Special Education Teachers

There are three credential programs and one non-credential program offered by the department. The credential programs include the regular mental retardation credential, the restricted credential to teach the educable mentally retarded, and the restricted credential to teach the trainable mentally retarded. The non-credential program is one leading to teaching the educationally handicapped.

Requirements for the Credential to Teach the Mentally Retarded

Students who complete the requirements for this credential are qualified to teach both the trainable and educable mentally retarded. In addition to completing the requirements in special education, the student must also complete the curriculum in either elementary or secondary education as described in pages 197 and 198. When the major is in an academic area commonly taught in the elementary or secondary schools (as appropriate), the 22 units of specialized preparation described below (not including student teaching) may be substituted for the minor. Upon successful completion of the program, the student will be recommended for the standard teaching credential with a specialization in elementary or secondary teaching with specialized preparation to serve as a teacher of exceptional children, area of the mentally retarded. Upon receipt of the credential, the student will be authorized to teach in special classes as well as in regular classes at the appropriate level. Students desiring to prepare as teachers of the mentally retarded should proceed as follows:

- 1. Apply for admission to special education (forms are available in the department office).
- 2. Arrange for a personal interview with a member of the special education faculty.
- 3. Apply for admission to teacher education as described on page 192.
- 4. Upon completion of the necessary prerequisite courses, apply for admission to student teaching. Since students completing this program divide their student teaching experience between special education and regular education, they should apply for admission to student teaching as described on page 193. In addition, they must apply for student teaching in special education by completing the application form necessary the semester before taking the course.

Students seeking recommendations for this special credential to teach the mentally retarded should complete the courses listed below in lieu of the minor required for the Standard Teaching Credential.

		Units
Educ 471	Exceptional children	3
Educ 473	Mental Retardation and Brain Injury	3
	Curriculum and Methods for Teaching the Mentally Retarded	3
Educ 475	Observation and Individual Instruction with the Mentally Retarded	3
Educ 779	Student Teaching with Mentally Retarded Pupils	4
Educ 452	Principles of Guidance	3
	nm 403 Speech Development	3
Electives fro	om courses related to teaching the mentally retarded (4 units); electives must roved by the adviser.	
Total	number of units in special education not including student teaching	22

Recommended Sequence of Courses in Professional Education for Students Preparing as Teachers of the Mentally Retarded

ntary Secondary
11 (3) Educ 411 (3)
96 (1) Educ 496 (1)
71 (3) Educ 471 (3)
Educ 340 (3)
31 (8) Educ 442 (3)
73 (3) Educ 473 (3)
74 (3) Educ 474 (3)
Educ 401 (4)
75 (3) Educ 475 (3)
Comm 403 (3) Speech Comm 403 (3)
es in special Electives in special education (4) education (4)
79 (4) Educ 779 (4)
39 (4) Educ 749 (2)
52 (3) Educ 452 (3)

Requirements for a Restricted Credential to Teach the Educable Mentally Retarded

Upon completion of the requirements for this credential, an individual is qualified for service at all grade levels with service restricted to teaching the mentally retarded. Students seeking this credential must:

- 1. Obtain the baccalaureate degree.
- 2. Complete a fifth year of university work.
- 3. Complete 22 hours of coursework in special education and related fields.
- 4. Complete student teaching with educable mentally retarded children.

Educ 312 is prerequisite to this credential program.

These programs are subject to change pending the initiation of programs consistent with the Teacher Preparation and Licensing Law of 1970.

Program Leading to the California Credential—Speech and Hearing Specialist

Students wishing to pursue the major in speech and hearing and to complete a fifth year for the "Restricted Teaching Credential for Services as a Speech and Hearing Specialist" (1967) should follow the major for speech for the B.A. degree with emphasis in speech pathology and audiology to be followed by a fifth year of adviser-approved specialized preparation.

Required in the undergraduate and graduate years will be the completion of 65 semester units constituting a well-integrated program that includes 18 semester units in courses that provide fundamental information applicable to the normal development and use of speech, hearing, and language, and their relationship to the educative process, and 42 semester units in courses that provide information about and training in the management of speech, hearing, and language disorders and that provide information supplementary to these fields.

Details of this teacher education program are found on page 394. The program is administered by the Department of Speech Communication in consultation with the School of Education.

Standard Teaching Credential with Specialization in Speech and Hearing in Lieu of Minor

A major other than speech and hearing is required for the clinical speech and hearing program taken in lieu of a minor. See an adviser in the Department of Speech Communication for details of this program.

ADVANCED CREDENTIAL PROGRAMS

The Department of Behavioral Sciences in Education offers work in pupil personnel toward the credentials for school counseling, school psychometrists and school psychologists. Students must check with an appropriate adviser to plan a program of study.

The Department offers work under the Standard Designated Service Credential of 1964 and the 1970 State Board of Education revision of the Standard Designated Services Credential. The Standard Designated Services Credential of 1964 requires a master's degree and 60 units of postgraduate work. The 1970 State Board revision requires a postgraduate program of work as follows:

School Counseling

Required professional background for Standard Designated Services Credential: Pupil Counseling (1970 Revision of Fisher Act)

- 1. Educ 452, Principles of Guidance (3)
 - 2. Educ 550, Counseling Theories and Processes (3). To be taken concurrently with 3.
- 3. Educ 596, Graduate Educational Practicum: Individual Counseling Relations (1-3)
- 4. Educ 555, Dynamics of Individual Behavior and Case Study (3)
- 5. Educ 551, Education and Career Orientation (3)
- 6. Educ 552, Group Processes in Counseling and Guidance (3)
- 7. Educ 596, Graduate Educational Practicum: Group Leadership and Membership
- 8. Educ 553, Administration and Organization of Pupil Personnel Programs (3)
- 9. Educ 559A,B, Fieldwork in Pupil Personnel Services: Counseling * (6)
- 10. Certification of competency as pupil counselor (Signature obtained from at least two pupil personnel faculty)

School Psychometry

To become a candidate for the school psychometry credential, the following are prerequisites:

- Completion of the counseling credential training program (outlined previously) or issuance of a pupil personnel services credential in counseling, on a clear basis, by the California State Department of Education.
- 2. Approved for candidacy by the School Psychology Training Program Committee. Application for admission to the program must be submitted as soon as the student becomes seriously interested in this area of professional work. Application, references, informal study sheet, and GRE scores must be submitted prior to screening. Committee approval for candidacy must occur prior to the student's enrollment in Educ 596, Graduate Educational Practicum: Individual Assessment and Case Study (see E. below). Additional program requirements including coursework follow:
 - A. Educ 471, Exceptional Children (3)
 - B. Either Educ 522, Behavior Problems in the Classroom (3), or Educ 523, Learning Problems in the Classroom (3)
 - C. Educ 570, Graduate Seminar in Educational Psychology: Advanced Developmental Psychology (3)
 - D. Educ 596, Graduate Educational Practicum: Individual Testing (3) (Prerequisite to E. below)
 - E. Educ 596, Graduate Educational Practicum: Individual Assessment and Case Study (3) (Should be taken concurrently with F. below)
 - F. Educ 559C, Fieldwork in School Psychometry (3)
 - G. Certification of competency as a school psychometrist by the School Psychology Training Program Committee.
 - H. (Screening for school psychology training program occurs at this point)

With the approval of the student's adviser, some of the above required courses for the psychometry program may be taken concurrently while completing the pupil counseling credential program (courses A, through D.).

Also, units from these courses may be applied toward the six units selected outside the area of specialization in the master's degree program. Substitution of courses including courses taken at other institutions necessitate the approval of the School Psychology Training Program Committee.

School Psychology

To become a candidate for the school psychology credential, the following are prerequisites:

- 1. The candidate must have clear credentials in counseling and psychometry.
- The candidate must have completed the M.S. in counseling or be in the final stages of completion. The School Psychology Training Committee may approve acceptable masters already

^{*} Admission to fieldwork should be requested on appropriate form at least a semester before a student expects to enroll. Students must have completed a minimum of six pupil personnel related units at Cal State Fullerton and obtain adviser's approval.

completed in lieu of the M.S. in counseling.

3. The application of the candidate must be approved by the School Psychology Training Program Committee prior to entering the training program. Applications for admission to the program must be submitted as soon as the student becomes seriously interested in this area of professional work. Application, references, informal study sheet, and GRE scores must be submitted prior to screening. (For students who complete the psychometry training program, some of this material and information may already be available to the committee.)

Additional program requirements including coursework follow:

- A. Educ 556, Advanced Individual and Group Process (3) (To be taken concurrently with C. in fall)
- B. Educ 557, Seminar in School Psychology: A Contemporary Overview (3) (To be taken concurrently with D. in spring)

C. Educ 558A, Advanced Psychometrics (3)

- D. Educ 558B, Advanced Case Analysis including Remediation and Rehabilitation Techniques
 (3)
- E. Educ 571, Graduate Seminar in Educational Psychology: Advanced Psychology of Learning
 (3)
- F. Either Educ 516, Etiology of Reading Difficulties (3), or Educ 581, Analysis of Reading Difficulties (3)
- G. Educ 559D, Fieldwork in School Psychology (6) (3 units to be taken concurrently with A. and C. in the fall and three units to be taken concurrently with B. and D. in the spring).
- H. Certification of competency as a school psychologist by the School Psychology Training Program Committee.

Substitution of courses including courses taken at other institutions necessitates the approval of the School Psychology Training Program Committee.

These programs are subject to change pending the initiation of programs consistent with the Teacher Preparation and Licensing Law of 1970.

GRADUATE PROGRAMS

MASTER OF SCIENCE IN EDUCATION School Counseling

Requirements for the M.S. in Education: School Counseling

Prerequisites

- 1. Baccalaureate degree from an accredited institution
- 2. Teaching experience or other approved experience
- 3. An approved major
- 4. A grade-point average of 2.5 overall
- 5. Specified course prerequisites completed or in progress: Educ 452 (3 units); Educ 550 (3 units)
- 6. Satisfactory Graduate Record Examination Aptitude Test scores
- 7. Satisfactory interview, references and autobiography

Study Plan

Thirty semester units of graduate work, specified on a formal study plan approved by the graduate adviser, must be completed within five years. The university may, at its option, extend the time limitation for students who pass a comprehensive examination in relevant courses which were completed prior to the five-year period. No more than nine units of postgraduate work taken at Cal State Fullerton prior to classified status may be applied to a student's formal master's degree study plan. (This does not refer to prerequisites.) A minimum of 24 units must be completed at Cal State Fullerton. If a specific course requirement has been met by previous study, electives may be substituted as approved by the adviser. The student is required to maintain at least a B average, with no grade below B in his concentration. The 30 units are to be distributed as follows:

- 1. Nine units outside the area of specialization
 - A. Educ 510, Research Design and Analysis (3)
 - B. Six units selected with the approval of an adviser (6)

- 2. Twenty-one units in the concentration in counseling
 - A. Educ 551, Education and Career Orientation (3)
 - B. Educ 552, Group Processes in Guidance (3)
 - C. Educ 553, Administration and Organization of Pupil Personnel Programs (3)
 - D. Educ 555, Dynamics of Individual Behavior and Case Study (3)
 - E. Educ 559A,B, Fieldwork in Pupil Personnel Services: Counseling (3,3)
 - F. Educ 597—Graduate Project or Education 595, Advanced Studies (Comprehensive) (3) For further information, consult the department graduate program adviser. See also "The

Program of Master's Degrees," page 71, and the Graduate Bulletin.

Special Education

The following information is provided to assist students in planning programs and in seeking admission to classified graduate status. Students should consult the Graduate Bulletin for information concerning standards for graduate study, steps in the master's degree program, and graduate policies and procedures. This publication is available from the Office of Graduate Studies.

The degree program is designed:

- 1. To help individuals interpret and implement research related to exceptional children, conduct appropriate research in the classroom and/or clinical setting, become skilled in their abilities to diagnose with educational instruments and observation techniques, interpret the results of diagnostic procedures, prescribe and implement educational strategies.
- 2. To provide teachers with competencies to enable them to fulfill the role of supervising teachers and demonstration teachers in special classes.
- 3. To prepare individuals for positions of leadership in the field of special education.
- 4. To prepare individuals to pursue graduate work toward the doctoral degree.

Prerequisites for Admission to the Program:

- 1. A baccalaureate degree from an accredited institution
- 2. At least 2.5 grade-point average in previous academic and related work
- 3. An acceptable score on the Graduate Record Examination—Aptitude Test
- 4. An approved major
- 5. Satisfactory completion of Educ 471, Exceptional Children (3)
- 6. Satisfactory interview, references and autobiography

Steps in the Master's Degree Program (see Graduate Bulletin):

special education.....

Courses required for the Degree:	et la notation de la company d
Nine semester hours of adviser-a tion	pproved courses outside the area of special educa-
A. 3 hours in basic research and	(Met by Educ 510 (3) or Educ 509 (3))
B. Administration or	(Met by 6 units of adviser- approved courses)
Clinic orientation or	The second of the control of the second of t
Teaching strategies	
Communication and Interpersonal relations	
or	
Educational technology	
Inter- and intracultural studies	

180 Education

A. 4–6 units of research activity * (Met by Educ 514 (3) and Educ 597 or 598 (1–3)

Educ 597 or 598 (1–3

B. 2–5 units of practicum (Met by Educ 572 (2–4) and/or

C. 10–15 units of special (Met by adviser-approved education specialization special education courses at the 400- and 500-level)

For further information, consult the department graduate program adviser. See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

Educ 496 (1-3)

BEHAVIORAL SCIENCES IN EDUCATION PRESERVICE COURSES

296 Educational Practicum (1-3)

Conduct an individual educationally oriented experience with a child, youth, or young adult in an educational practicum location under the direction of a faculty member. Available to students who want or need public service experience with children, youth, or adults. Does not give credit toward any teaching credential. May be repeated for a maximum of six units of credit. Open to freshman and sophomore students. (3 hours laboratory per hour of credit)

312 Human Growth and Development (3)

Prerequisite: Psych 101. A comprehensive study of human growth and development with emphasis on childhood, adolescence, and middle and old age. Includes mental, social, emotional and physical development.

† 411 Psychological Foundations of Education (3)

Prerequisites: Psych 101 and concurrent enrollment in upper division practicum or fieldwork. Prerequisite to other courses in the professional education sequence. Learning theory, thinking processes, and human growth and development. Students who have completed Psych 311 must have consent of instructor to enroll.

471 Exceptional Children (3)

Corequisite: Educ 411 (or Educ 312 for students working toward the Restricted EMR Credential). Seminar on the study of children who deviate from the average in the elementary and the secondary schools; physically handicapped, mentally retarded, gifted, socially maladjusted, emotionally disturbed, and delinquent. Special educational services, curriculum, procedures, and materials necessary to promote their maximum development.

472 Gifted Children (2)

Prerequisite: Educ 411. Identification, principles of instruction, grouping, individualized instruction, classroom enrichment. Problem solving and research experiences in science, social studies, and mathematics, reading programs and literature, creative writing, oral language.

473 Mental Retardation and Brain Injury (3)

Prerequisite: Educ 471. Organic and cultural basis of mental retardation and brain injury, including social, psychological, and vocational problems. Child growth, sensory development, learning characteristics of mentally retarded and brain injured children, and techniques of working with parents will be considered.

474 Curriculum and Methods for Teaching the Mentally Retarded (3)

Prerequisite: Educ 473. Curriculum development, methods, and materials for teaching the educable and trainable mentally retarded at the elementary and secondary levels.

475 Observation and Individual Instruction with the Mentally Retarded (3)

Prerequisite: Educ 474. Supervised observation and participation with the educable and the trainable mentally retarded at both the elementary and secondary levels of education. (4 hours activity, 1 hour lecture and discussion)

Student may elect to substitute the Department Comprehensive Examination for Educ 597/598. Students electing this option must complete Educ 514.

[†] Open only to persons previously admitted to the teacher education program.

477 The Educationally Handicapped Child (3)

Prerequisite: Educ 471. Behavioral characteristics of the educationally handicapped child, the child with a neurologically handicap or a behavioral disorder as defined by the California Education Code. Educational procedures, perceptual and motor training, evaluation, parent guidance.

479 Seminar and Practicum in Education of the Trainable Mentally Retarded (6)

Prerequisite: consent of instructor. Curriculum, methods, and materials for children having severe intellectual, motor, sensory and language impairment. Emphasis will be placed on the educational management of children exhibiting handicapping conditions. (3 hours seminar and 9 hours practicum in special school facilities.)

480 Issues in Higher Education (3)

Seminar in structure, governance, administration and challenges of American higher education.

489 Fieldwork in Exceptional Children (3)

Prerequisite: Educ 471 or consent of instructor. Direct supervised experience with educationally handicapped children.

496 Senior Educational Practicum (1-3)

Conduct at an advanced level an educational practicum experience with an individual under the direction of a faculty member. May be repeated for a maximum of six units of credit.

499 Independent Study (1-3)

Prerequisite: senior or graduate standing, consent of instructor and department prior to registration. Conduct of an individual investigation under supervision of a faculty member; investigation might be an experiment, a library study, or a creative project; only students of demonstrated capacity and maturity will be approved; adequate prerequisite study necessary. May be repeated for credit.

GRADUATE COURSES

500 Survey of Collegiate Student Personnel Services (3)

History, philosophy, objectives, organization and administration of collegiate student personnel services. (2 hours lecture, 2 hours activity)

514 Graduate Seminar: Behavioral Research on Children with Learning Disorders (3)

Prerequisites: Educ 510 or 511, consent of instructor, and teaching experience with exceptional children. Critical analysis of behavioral research on children with learning disorders. Resources, criteria for evaluation of studies with exceptional children, historical view of research in special education. Research relating to learning and handicapping conditions, and efficacy of special methods and materials will be reviewed.

521 Group Processes in the Classroom (3)

Prerequisite: Educ 471 or consent of instructor. Exploration of group interaction, teacher sensitivity, and their relevance to educational planning and management. Emphasis: emotionally disturbed, educationally handicapped.

522 Behavior Problems in the Classroom (3)

Prerequisite: Educ 471 or consent of instructor, Identification and management of social and affective disturbances related to school performance. Emphasis: early detection, behavioral modification techniques, parent counseling, interagency cooperation.

523 Learning Problems in the Classroom (3)

Prerequisite: Educ 471 or consent of instructor. Identification and educational management of learning problems. Emphasis: developmental sequences, related prescriptive teaching and remediation techniques.

550 Counseling Theories and Processes (3)

Prerequisite: Educ 452. Seminar in the dynamics of counselor and client relationships, exploration of various theories of counseling, application of theory to techniques and processes, and a study of the counseling theory in relation to personality theory. Major project and supervised practice required. To be taken concurrently with Educ 596.

551 Educational and Career Orientation (3)

Prerequisite: admission to the pupil personnel program, Educ 550 or consent of instructor. Seminar in the principles of evaluating, classifying, and disseminating occupational and educational information in the guidance program; sources of occupational literature, occupational research, vocational surveys, and methods of studying the individual as a unique whole to help him develop his greatest career potential. Emphasis on the psychological, sociological, economic, and clinical implications of career and educational choice. A major project in career information is developed under supervision.

552 Group Processes in Counseling and Guidance (3)

Prerequisite: admission to the pupil personnel program, Educ 550 or consent of instructor. Seminar in the intensive study of the dynamics of group processes including the function of leadership, effective membership and techniques of group problem solving. Special emphasis on clinical group counseling including a semester project in a school setting.

553 Administration and Organization of Pupil Personnel Programs (3)

Prerequisites: admission to the pupil personnel program, Educ 551 or consent of instructor. Seminar in the development, organization, supervision, and administration of the pupil personnel services. Seminar on analysis and evaluation of pupil personnel services by the case study method, curriculum, counselor competencies, staffing; includes laws relating to children and child welfare.

555 Dynamics of Individual Behavior and Case Study (3)

Prerequisites: admission to the pupil personnel program, Educ 451, 550, or consent of instructor. Seminar in case conference techniques; clinical study of the techniques of individual diagnosis including the synthesis and interpretation of information. Use of the life or developmental record, self-ratings, behavior ratings and tests as they relate to counseling with the normal and abnormal pupil. Identification and remediation of learning difficulties emphasized.

556 Advanced Individual and Group Processes (3)

Prerequisites: admission to school psychology program, Educ 452, 550, 552, and concurrent enrollment in Educ 558A. An advanced course in individual counseling and advanced group process to be offered as part of the training requirements for school psychologists. Includes experience in working with faculty interaction groups in a leadership capacity. Attention will be given to the translation of theory into practice in public school and clinical settings. Lecture and practicum including school and clinical experiences.

557 Seminar in School Psychology: A Contemporary Overview of Professional Aspects and Problems in School Psychology (3)

Prerequisite: concurrent enrollment in Educ 588B. An advanced course in school psychology covering professional aspects in a contemporary setting including ethics, issues and problems, membership in professional organizations, psychological services relationship to other school and community service, supervision of psychometrists and other specialized personnel, legislation and current and future trends in public education. Initiating and developing district level research and consultation functions of a school psychologist will be stressed.

558A School Psychology: Seminar in Problems in Personality Diagnosis (4)

Prerequisites: a clear California credential in school psychometry or psychology intern credential and admission by Pupil Personnel Services screening committee. Seminar and internship and/or fieldwork in problems of personality assessment in the school setting, effecting changes in behavior among school pupils and personnel. Emphasizes role and function of the school psychologist in pupil personnel services. Advanced experience in the clinical case study, application of understandings of the dynamics of individual counseling and group counseling to human behavior in the school setting.

558B School Psychology: Seminar in Problems of Learning (4)

Prerequisite: Educ 558A. Seminar and internship and/or fieldwork in problems of learning and their remediation. Advanced work in diagnostic testing, clinical interpretation of data, remediation of identified problems. Advanced work in communication including reporting, individual counseling, group counseling and case conference.

559A,B Fieldwork in Pupil Personnel Services: Counseling (2-6)

Prerequisites: Educ 551, 552, 555 and consent of instructor. Student will participate in guidance and counseling activities in his local school setting under the supervision of a local coordinator and the college staff. Work assignments are made on an individual basis. In addition to work in the field, students will meet in weekly seminar. May be repeated for credit up to a maximum of 12 units.





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559C Fieldwork in Pupil Personnel Services: Psychometry (3)

Prerequisites: Educ 559A,B, admission to psychometry program and consent of instructor. Students will participate in psychometry activities in their local school setting under the supervision of a local coordinator and university staff. Work assignments are made on an individual basis. May be repeated for credit up to a maximum of 12 units.

559D Fieldwork in Pupil Personnel Services: School Psychology (6)

Three units to be taken concurrently with Educ 556 and 558A and three units to be taken concurrently with Educ 557 and 558A.

570 Graduate Seminar in Educational Psychology: Advanced Developmental Psychology (3)

Prerequisite: consent of instructor. Research, theory and practice in the physical-motor development, cognitive-intellectual growth and affective-personality organization of children and adolescents. Focus is given to educational interventions as a means of problem solving.

571 Graduate Seminar in Educational Psychology: Advanced Psychology of Learning (3)
Prerequisite: consent of instructor. Research, theory and practice in the psychology of learning and motivation: motoric, cognitive and affective. Focus on problem solving situations in which educational intervention is designed to facilitiate learning in each domain.

572 Psycho-Educational Clinic (2)

Prerequisites: prerequisite sequence or equivalent and consent of instructor. (Prerequisite sequence is Educ 475 or 477, 523, 570, and 571 concurrently with 572.) A clinical practicum for the purpose of developing clinical teaching skills in dealing with the learning problems of exceptional children, practice in working with formal and informal information-gathering devices, special teaching instruments, teaching systems, and teaching strategies. Students may, upon the recommendation of the instructor, repeat the course for credit one time. (6 hours laboratory)

577 Seminar in Program Trends in Special Education (3)

Prerequisites: recommendation of adviser and consent of instructor. A seminar designed for the study of historical development of educational programs for exceptional children. A critical analysis of issues and trends in special education.

578 Administration and Supervision of Special Education (3)

Prerequisite: Educ 577 or consent of instructor. Problems of organization, administration, and supervision of special education programs: finance and attendance, physical facilities, budgeting, needed equipment, community agencies and curriculum development.

595 Advanced Studies (1-3)

Graduate seminars designed to develop professional competencies in such areas as behavior, teaching strategies, educational technology, program development, communication theory and interpersonal relations. May be repeated for credit.

596 Graduate Educational Practicum (1-3)

Prerequisite: consent of instructor. Conduct at a graduate level an educational practicum experience with an indivdual under the direction of a faculty member. May be repeated for a maximum of six units.

597 Project (1-3)

Prerequisites: consent of instructor. Individual research on an empirical project, with conferences with the instructor, culminating in a project.

598 Thesis (1-3)

Prerequisite: consent of instructor. Individual research with conferences with the instructor, culminating in a thesis.

599 Independent Graduate Research (1-3)

Prerequisite: consent of the instructor. Open to qualified graduate students desiring to pursue independent inquiry.

PROFESSIONAL COURSES IN POSTGRADUATE PROGRAM

702 Guidance of the College Bound Student (3)

778 Fieldwork in Administration of Special Education (12)

Prerequisites: Educ 577, and registration in Educ 578. Directed fieldwork in the administration of special education programs. An assignment will be made in public or private schools.

779 Student Teaching with Exceptional Children (4-8)

Prerequisite: consent of instructor. Participation in a class for exceptional children for greater part of every school day. Includes a two-hour seminar each week in problems and procedures for teaching exceptional children. The student will enroll for either four or eight units credit dependent upon the problems and procedures for teaching exceptional children.

DEPARTMENT OF SCHOOL ADMINISTRATION/ SOCIAL FOUNDATIONS/READING

FACULTY

Ernest Lake

Department Chairman

Hollis Allen (Emeritus), Walter Beckman, Edwin Carr, Hazel Croy,* Stuart McComb (Emeritus), Robert McLaren, Deborah Osen, Kenneth Preble, Stanley Rothstein, George Schick, Robert Simpson

PART-TIME

Clayton Credell, Emmanuel Deligiannis, Ragnar Engebretsen, Robert Jenkins, Donald Jordan, Charles Kenney, Dorothy Klausner, David Lloyd, Clinton McClarty, Ernest Norton, Raymond Oliver, David Paynter, Walter Pray, Max Rauch

UNDERGRADUATE COURSES IN SOCIAL FOUNDATIONS

Courses in the social foundations of education are designed to help prospective teachers understand how the school has been shaped, and is being shaped, by a myriad of forces. These forces are intellectual, historic, economic, political, social, legal; together they influence the outcomes of formal education at least as much as does any education methodology. For this reason work in the social foundations of education is one of the requirements for teaching credentials.

UNDERGRADUATE COURSES IN READING

Lower division courses in reading are designed to assist students in developing the critical and creative reading skills required for efficient university learning. The upper division course in reading (Educ 480) presents an overview of reading education (K-adult) and prepares teachers to assess reading skills and build a curriculum based on the results of continuing assessment.

MASTER OF SCIENCE IN EDUCATION

School Administration

A program of graduate studies leading to the degree of Master of Science in Education with a concentration in school administration has been authorized by the California State University and Colleges Board of Trustees. The principal objective of the curriculum is to prepare carefully selected individuals for certain leadership positions in school administration.

The program is designed to help these individuals gain the technical knowledge and scholarship requisite to high achievement in these positions. This professional program is based on and combined with sound preparation in the liberal arts and sciences. The curriculum proposes an interdisciplinary approach to the preparation of the professional specialist in public education. Thus, those who qualify for the degree should have completed coursework in such fields as philosophy, public administration, psychology, political science, biology, English, sociology, economics, anthropology or history.

Prerequisites

A student desiring to enter the program should complete the following requirements:

- 1. A baccalaureate degree from an accredited institution.
- A successful teaching experience in an elementary or secondary school, or community college, is desirable. If such experience is not available, other experience in related fields is a recommended alternative, which must be approved by a graduate adviser before starting the program.

^{*} Chairman, Institute for Reading

- 3. Generally, students will have completed as a requirement of their teaching certificate 30 units of postbaccalaureate study. These must be of upper division or graduate level (300-level or above) and be approved by the graduate adviser. Students should make an appointment with a graduate adviser as soon as the objective in school administration is selected.
- 4. An approved undergraduate major.
- A minimum of 12 postgraduate units in academic subjects, completed either prior to or during the program.
- 6. At last 2.5 grade-point average in previous academic and related work.
- 7. Acceptable scores on the Graduate Record Examination Test.

Programs of Study

The degree study plan must include 30 units of committee-approved coursework, of which 21 must be at the 500 level. A minimum of 21 units must be in school administration; six units may be assigned on an interdisciplinary basis from courses related to the needs of individual students. Course requirements include field experience and a project.

No more than nine units of postgraduate work taken prior to classified status may be applied to a student's master's degree program.

Students concentrating in school administration will take Education 503, Foundations for Administrative Leadership, as soon as they identify their interest in this M.S. degree. To continue in the program beyond this course, the student must be granted a "letter of admission to the program" and possess an official Cal State Fullerton program evaluation. Students who desire only isolated courses from the program are normally denied admission to such courses. The adviser-approved 30 units (minimum) on the study plan will include:

Master's degree studies, supporting courses	9
Adviser-approved courses (outside the student's area of specialization and outside the	
Department of School Administration and Social Foundations (6)	
Courses for the concentration in school administration	21
(No grade below C)	
All of the following:	
Educ 505 Supervision of Curriculum (4)	
Educ 561 Organization of School Systems (3)	
Educ 563 Principles of School Personnel Administration (2)	
Educ 564 Seminar in School Law (2)	
Educ 565 Seminar in School Finance, Business Administration, and Buildings (3)	
Educ 567A Fieldwork and Seminar in School Administration (Includes Project or Thesis) (2)	
Educ 567B Fieldwork and Seminar in School Administration (Includes Project or Thesis) (2)	
One of the following:	
Educ 566 The Elementary School Principal and Supervisor (3)	
Educ 586 The Secondary School Principal, Community College Administrator, and Supervisor (3)	

For advisement and further information, consult the Department of School Administration/Social Foundations/Reading. See also "The Program of Master's Degrees," p. 71 and the *Graduate Bulletin*.

INTERNSHIP IN SCHOOL ADMINISTRATION

A selected number of teachers will be offered the opportunity to study and to practice school administration as school interns in administration. A candidate must obtain admission to the program, and agreement must be reached with a sponsoring school or college district to employ the candidate as a full-time administrator during the school year. The concept of the internship in educational administration is similar to that found in other professional fields. Its basic function is to enable the intern to gain the necessary experience in the performance of the critical tasks of his profession while under the close supervision of a fully-trained and experienced practitioner. It is an opportunity for the college and local school and college systems to work together in training well-qualified school administrators. The internship in educational administration is but one phase of the program for preparing supervisory and administrative personnel for community college, high

school, intermedate school, and elementary school positions of leadership. It is an investment in training supervisory leadership from which the cooperating school district, the university and the intern will derive benefit and in which all three have responsibilities. Cooperation among all three is essential to the success of the program.

Internships are for a full academic year and require of all students the completion of a minimum of 19 graduate credits. During the period of the internship the student is required to be a registered graduate student at Cal State Fullerton.

All candidates will be given a temporary credential for supervision and administration according to the regulations of the California Administrative Code, Title V, Section 6555. Such candidates should register in two courses: Education 561, Organization of School Systems, Education 563, Principles of School Personnel Administration.

Both courses must be completed in the summer session if the student is to do his internship beginning in the fall semester. Applications for admission to the program should be sent to the chairman, Internship Program in School Administration, by June 1. Careful planning of electives will enable candidates to receive the Master of Science in Education with a concentration in school administration upon further study, after completing the requirements for the internship.

ADVANCED CREDENTIAL PROGRAM

School Administration

Candidates in administration, upon completion of the degree requirements for a Master of Science in Education, should qualify for certification as a school administrator at any level providing they have taught three years. As certification requirements change yearly, candidates are urged to have their adviser check their study program against current requirements.

Candidates in administration accepted in the Administrator Internship Program will be issued the Standard Supervision Credential conditionally upon partial fulfillment of requirements according to the California Administrative Code, Title V, Section 6555.

OTHER STUDENTS IN SCHOOL ADMINISTRATION

Experienced school administrators, holding a California administrative credential or a supervision credential and exempt from degree requirements, may register for any course in the school administration concentration. Teachers wishing to take courses in school administration directed at helping them to understand administration problems are welcome to take selected courses.

MASTER OF SCIENCE IN EDUCATION

Reading

A program of graduate studies leading to the degree of Master of Science in Education, Reading, is authorized by the California State University and Colleges Board of Trustess. The program is designed to help qualified individuals gain the technical knowledge and scholarship requisite to becoming reading specialists. This professional program is based on and combined with sound preparation in the liberal arts and sciences. The curriculum proposes an interdisciplinary approach to the preparation of the professional specialist in the area of reading. Thus, those who qualify for the degree must complete a specified amount of their coursework in such fields as linguistics, English, sociology, speech communication, theatre or psychology.

Prerequisites

Once the student has been notified of his acceptance for this master's degree program, he should complete an application for classified status. Then he must confer with the graduate studies adviser in the reading program to discuss the following prerequisites which should be fulfilled for admission to the proposed degree program:

- 1. A baccalaureate degree from an accredited college or university.
- 2. Successful teaching experience in an elementary or secondary school or community college.
- 3. An approved major.
- 4. A grade-point average of 2.5 or better in previous academic and related work.
- 5. Sufficient background in reading.
- 6. Acceptable scores on the Graduate Record Examination Aptitude Test.
- 7. Four references from school administrators, school supervisors or professors.
- 8. A satisfactory interview.

Study Plan

The adviser-approved minimum of 31 units on the study plan will include the following

and a state approved immunant of 31 units on the state	y plan will include the following.
Master's Degree Studies, Supporting Courses	ntration (6)
(No grade below a B) All of the following:	22 To miniminate of the state o
Educ 506 Curriculum and Research: Reading (3) Educ 516 Etiology of Reading Difficulties (3) Educ 581 Analysis of Reading Difficulties (3) Educ 583A Remedial Reading: Casework (3) Educ 583B Remedial Reading: Casework (3) Educ 595 Advanced Studies (1) (Includes comprehensive examination)	
Two of the following:	

Educ 507 Current Trends in Secondary and College Reading Programs (3)

Educ 508 Teaching Reading in Today's Elementary School (3)

Educ 517 Educational Testing (3)

Educ 518 Behavioral Problems in Teaching (3)

Educ 519 The Principal's Role in the Effective School Reading Program (3)

Educ 582 Analysis of Corrective Reading Practices (3)

Educ 584 Linguistics and Reading (3)

Educ 585 Word Perception Skills in Reading (3)

For further information, consult the chairman of the Institute for Reading. See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

SCHOOL ADMINISTRATION/SOCIAL FOUNDATIONS/READING UNDERGRADUATE COURSES

101 Reading Development (1)

An elective course for students enrolled at Cal State Fullerton who wish to improve their reading efficiency. May be repeated for a maximum of three units of credit.

301 The Educated Man (3)

Prerequisites: junior standing or consent of instructor. Various conceptions of the nature, concerns and activities of a truly educated person are studied, as proposed by scholars from Plato to B. F. Skinner. Special attention will be given to such problems as the humanitarian ideal; aspects of human freedom; the relation of science to culture; mankind's concern about his own nature and destiny.

302 The Campus in Transition (3)

Prerequisites: junior standing or consent of instructor. History and development of American higher education is studied in the context of both its historic roots in European education, and the many phases of American culture from the founding of Harvard in 1636 to the present. The roots of change and campus unrest are examined, and special attention is given to such contemporary issues as Black Power, the war and the draft; student attitudes toward sex; rebellion against "estabishment" ideals; attitudes toward grades, drugs and political involvement.

303 Education and Its Critics (3)

Examination of the criticisms of contemporary education and of proposals for reform. Includes visits to a variety of schools. Designed for all students. *Not* a part of the credential program.

304 Contemporary Educational Change (3)

Emphasis on the changing educational scene: primary focus on elementary and secondary levels.

The quest for greater flexibility, better methods of teaching, improved staffing patterns and accountability will serve as the course foundation.

305 School and Society (3)

Prerequisites: Educ 401 or consent of instructor. Stability and change in contemporary society viewed in terms of the decline of traditional values and culture and the rise of legal-rational institutions. Urban life, social class, race relations and family organization will be examined in relation to the stressful nature of modern society.

401 Social Foundations of Education (4)

Prerequisite: Educ 411, admission to teacher education or consent of instructor. Seminar in philosophical, historical and sociological foundations of education, considered in the light of their influence on contemporary educational theory and practice in the United States.

402 Comparative Education (3)

Prerequisite: Educ 401, 403, or consent of instructor. A seminar centered in study of the various countries' and areas' education patterns, problems and trends as part of the cultural setting in which found; designed to deepen insight into our own culture's educational program and offer bases for comparative evaluation with other systems.

403 History of Education (3)

Prerequisites: history of world civilization and Educ 331 or 442 or consent of instructor: The main streams of educational history in Europe and America, with particular emphasis on the ways these main streams have affected the current scene in the United States.

406 Educational Sociology (3)

Prerequisite: Educ 331 or 442, or consent of instructor. The school in the social order; the school as a social system; analysis of cultural factors affecting the school; the special culture of the school; roles and role conflicts in the school; policy questions flowing from social issues and school-cultural relationships.

480 The Teaching of Reading (3) (Formerly Teacher Education 380)

Curriculum and methods in the teaching of reading in the elementary and secondary schools. Examination and analysis of the approaches to reading in teachers' manuals and guides. Practical experience in preparing lessons in classroom teaching of reading.

485 Introduction to Educational Administration (3)

Prerequisite: upper division standing. Administrative tasks, roles and processes in education, with particular attention to personal and professional qualifications for administrative positions.

496 Senior Educational Practicum (1-3)

Conduct at an advanced level an educational practicum experience with an individual under the direction of a faculty member. May be repeated for a maximum of six units of credit.

499 Independent Study (1-3)

Prerequisite: senior or graduate standing, consent of instructor and department prior to registration.

Conduct of an individual investigation under supervision of a faculty member; investigation might be an experiment, a library study, or a creative project; only students of demonstrated capacity and maturity will be approved; adequate prerequisite study necessary. May be repeated for credit.

GRADUATE COURSES

501 Philosophy of Education (3)

Prerequisites: postgraduate standing and Educ 339 or 739 or Educ 749, or consent of instructor. Uses of theories of knowledge, value and reality in dealing with educational problems; application of contemporary systems of thought to education.

503 Foundations for Administrative Leadership (3)

Prerequisite: consent of instructor. Seminar on cultures and values to which schools must contribute: introduction to community sociology, tax systems and public administration; the literature of leadership. Screening for admission to program. Occasional special meetings. Required of all students during first registration in school administration and supervision at this university.

505 The Supervision of Curriculum (4)

Prerequisite: Educ 566 or 586. Seminar on development of a quality program of instruction in both elementary and secondary schools; appraisal of programs of instruction; advanced principles of curricular review and modification. Evaluation of subject matter competence in area of supervisory specialization. Meets credential requirements in principles of curriculum construction and evaluation; supervision of instruction and curriculum in both elementary and secondary schools.

506 Curriculum and Research in Reading (3) (Formerly Teacher Education 506)

Prerequisite: consent of instructor. Study of curriculum and research in reading, including materials, organization and methods of instruction.

507 Current Trends in Secondary and College Reading Programs (3)

Prerequisite: graduate status. Recent research findings on the learner, the teacher, approaches, materials and facilities in the teaching of reading at secondary and college levels.

508 Teaching Reading in Today's Elementary School (3)

Prerequisites: upper division or graduate status. Current trends in the teaching of elementary reading, focusing on the teacher as diagnostician and the reading process as continuous and developmental for all learners.

516 Etiology of Reading Difficulties (3) (Formerly Teacher Education 516)

Prerequisite: teaching experience, Educ 506 or consent of instructor. Studies of the factors underlying learning disabilities in reading in children, adolescents and young adults.

517 Educational Testing (3)

Prerequisites: graduate standing or consent of instructor. Survey of individual and group intelligence, achievement, interest, aptitude, vocational and personality tests. Theory and practical application of individual and group tests used with students having learning problems. A course for reading specialists, school counselors, teachers and administrators to enhance their effective use of services of school psychologists' reports. Demonstrations of tests by instructor.

518 Behavioral Problems in Teaching (3)

Prerequisites: graduate standing or consent of instructor. Practical application of psychological principles to the diagnosis and management of behavioral problems in elementary and secondary classrooms.

519 The Principal's Role in the Effective School Reading Program (3)

Prerequisites: graduate standing—preservice or inservice principal. Includes techniques for developing the philosophy, goals and objectives of the school reading program consistent with the PPBS format procedures for assessing students' reading ability and using this information to place students in classes and methods for providing inservice experiences in reading for the school faculty.

560 Contemporary Problems in School Administration (3)

A seminar on contemporary problems in school organization and administration with particular emphasis on collective bargaining, the computer as a business and educational tool, and the needs of urban schooling including the problems of racial isolation.

561 Organization of School Systems (3)

Prerequisite: Educ 503 or concurrent enrollment. Seminar on structure, functions, trends, fiscal responsibilities and issues in respect to the government of education at federal, state, county, and local school district levels. Basic principles in school organization and administration. Special emphasis on intergovernmental relations and impact at local level.

563 Principles of School Personnel Administration (2)

Prerequisite: Educ 503 or concurrent enrollment. Seminar on principles of organizational behavior, social processes inherent in effective leadership, and techniques of school personnel management.

564 Seminar in School Law (2)

Prerequisite: consent of instructor. School law as a reflection of public policy; the California Education Code and the California Administrative Code, Title 5, and county counsel opinions as they affect administration, instruction, and financial management of public schools. Court attorney general decisions in interpreting school law. Legal basis for public education in California. An elective course in school administration.

565 Seminar in School Finance, Business Administration, and Buildings (3)

Prerequisite: consent of instructor. Emphasis on school finance, business administration, and buildings as they implement an effective educational program. A study of financial principles. School revenues and expenditures, budgetary procedures and processes, cost analysis; business management, and salary policies. An elective course in school administration.

566 The Elementary School Principal and Supervisor (3)

Prerequisites: Educ 561 and 563. Seminar on leadership roles of elementary school principal and supervisor, pupil personnel and instructional program in elementary school; working relations and morale among staff, community and pupils; parent education; relations with central district staff; management and recordkeeping functions; teacher evaluation.

567A,B Fieldwork and Seminar in School Administration (2,2)

Prerequisites: Educ 566 or 586 or concurrent registration, and consent of instructor. Two-semester terminal sequence required for the M.S. in Education with a concentration in school administration. Includes directed fieldwork in selected public schools and district offices. Supervised project or thesis required for degree. (4 hours fieldwork, 2 hours conference)

568 Seminar for Administrative Trainees (3)

Provides a behavioral analysis approach in the establishment of a sound foundation for educational administrators who have just completed a year of practice in administration. The seminar is the culminating offering of the Administrator Internship Program. The objectives of the seminar include (1) developing further insights into the complex behavior of human beings in social groups, (2) increasing understanding of how certain theory and research contribute to effective administrative practice, (3) evaluating further self-behavior in administration. Experienced school administrators who wish to relate their administrative experiences to the theory of behavioral analysis are welcome to register in the seminar. Behavioral environment will be examined as it shapes process, organization and function in school administration.

581 Analysis of Reading Difficulties (3) (Formerly Teacher Education 581)

Prerequisites: bachelor's degree, teaching experience, Standard Teaching Credential, Educ 506 or consent of instructor. Analysis and diagnosis of reading difficulties. Techniques and methods or prevention and treatment. Individual remediation of student. Primary through secondary.

582 Analysis of Corrective Reading Practices (3) (Formerly Teacher Education 582)
Prerequisites: Educ 516, 581 and consent of instructor. Critical evaluation of reading and remedial reading practices. Short-term project in a school situation.

583A,B Remedial Reading Casework (3,3) (Formerly Teacher Education 583A,B)

Prerequisites: Educ 582 and consent of instructor. Fieldwork in diagnosis and remediation in reading through casework technique. Conferences with teachers, parents, consultants, and administrators.

584 Linquistics and Reading (3) (Formerly Teacher Education 584)

A study of linguistics and its influence on reading materials and instruction. An analysis of trends in reading and changes affected by the science of linguistics.

585 Word Perception Skills in Reading (3) (Formerly Teacher Education 585)

Study of word perception skills in the process of learning to read. A developmental hygiene of child vision. Visual anomalies and their applications to reading disorders.

The Secondary School Principal, Community College Administrator and Supervisor
(3)

Prerequisites; Educ 561 and 563. Seminar on leadership roles of the secondary school principal and supervisor, pupil personnel and instructional program in the secondary school; the development and administration of vocational and adult education; working relations and morale among staff, community and pupils, relations with central district staff; the management and record-keeping functions; teacher evaluation.

595 Advanced Studies (1-3)

Graduate seminars designed to develop professional competencies in such areas as behavior, teaching strategies, educational technology, program development, communication theory and interpersonal relations. May be repeated for credit.

597 Project (1-3)

Prerequisite: consent of instructor. Individual research on an empirical project, with conferences with the instructor, culminating in a project.

598 Thesis (1-3)

Prerequisite: consent of instructor. Individual research with conferences with the instructor, culminating in a thesis.

599 Independent Graduate Research (1-3)

Prerequisite: consent of instructor. Open to qualified graduate students desiring to pursue independent inquiry.

DEPARTMENT OF TEACHER EDUCATION

FACULTY

Bernard Kravitz

Department Chairman

James Cusick (Coordinator of Secondary Education), Raymond Denno,* Kenneth Doane,* Mildred Donoghue, Gerhard Ehmann,* Barbara Hartsig, Shirley Hill, Emma Holmes, Paul Kane, Edith McCullough, Bryan Moffet (Coordinator of Teacher Education and Elementary Education), Donald Pease, Morris Sica

SECONDARY EDUCATION TEACHING METHODS FACULTY

James Alexander (Journalism Education), Jean Barrett (Physical Education), Carol Chadwick (Music Education), Francis Collea (Science Eduation), Miriam Cox (English Education), Naomi Dietz (Art Education), Hugh Ellison, (Music Education), Kaye Good (Speech Education), Donald Henry (Theatre Education), George Hoetzl, Jr. (Mathematics Education), Elmer Johnson (Physical Education), Joseph Landon (Music Education), L. Clark Lay (Mathematics Education), Benton Minor (Music Education), Irene Nims (English Education), David Pagni (Mathematics Education), Albert Porter (Art Education), Virginia Scheel (Physical Education), Clarence Schneider (English Education), Eula Stovall (Physical Education), H. Eric Streitberger (Science Education), Jacqueline Thornton (Foreign Language Education), Howard Warner (Art Education), John White (English Education), Charles Williams (Science Education), Jon Zimmermann (Foreign Language Education)

PART-TIME

Leona Baumgardner, Margot Coons, Margaret Eadie, Clarence Lee, Helen Levy, Margery Ogden, Russell Parks, Ann Pease, Lloyd Pieper, E. Ann Pierce, Harriet Schultz, Mildred Shell

The courses, programs, and services of the department are directed toward the following objectives of students:

- 1. Master of Science in Education with concentration in an elementary curriculum and instruction.
- 2. Preservice teacher education (elementary school, secondary school, community college).
- 3. In-service teacher education.

Instruction concentrates on the central principles of the school as a basic institution of our culture, the methods and materials associated with effective teaching, and the current and persistent problems that confront teachers, and other professional workers in educational institutions. In addition to using published source materials and attending class sessions for presentations and discussions, many courses require fieldwork in schools, laboratories, clinics, and other educational agencies.

PUBLICATIONS AVAILABLE FROM THE DEPARTMENT OF TEACHER EDUCATION

- 1. Master of Science in Education, Elementary Curriculum and Instruction
- 2. Admission to Teacher Education: Standards, Instructions, Application
- 3. Admission to Student Teaching: Standards, Instructions, Application
- 4. Standard Teaching Credential with a Specialization in Elementary Teaching
- 5. Standard Teaching Credential with a Specialization in Secondary Teaching
- 6. Standard Teaching Credential with a Specialization in Community College Teaching

important note:

Due to changes in the legal requirements for teaching credentials mandated by the California State Legislature, the programs and requirements listed below apply only to those students who were admitted to Teacher Education prior to November 2, 1971. It is possible that other students interested in obtaining a teaching credential at this institution will be subject to different requirements and programs which will be published in a supplementary bulletin.

^{*} University administrative officer.

PRESERVICE TEACHER EDUCATION

TEACHER EDUCATION CURRICULA

Cal State Fullerton is accredited by the California State Board of Education for programs leading to the following credentials offered by the Department of Teacher Education:

- 1. Standard teaching credential with specialization in elementary school teaching
- 2. Standard teaching credential with specialization in secondary school teaching
- 3. Standard teaching credential with specialization in community college teaching

The School of Education has administrative responsibility for teacher education. All curricula provide for completing the requirements for graduation with the bachelor of arts degree at the end of the usual four collegiate years and an additional year of work to satisfy requirements for a teaching credential. Preparation for teaching in a community college requires the master's degree. Details of the programs are provided in special brochures available from the Department of Teacher Education. Information about the professional services authorized by the above credentials will be provided by professional advisers.

PERSONNEL SERVICES FOR TEACHER EDUCATION STUDENTS

Advisement is available to any student seeking a public school credential and a bachelor of arts degree at this university. During registration, the student should consult an adviser in the department in which he expects to major and an adviser in the School of Education who will help him select courses and build his program. A student from another institution should bring transcripts of previous work and a tentative selection of courses. Transferred education courses must be of upper division level and taken within the past 15 years to be applicable to upper division credential requirements.

ADMISSION TO TEACHER EDUCATION

To become a candidate for a teaching credential the student must be enrolled, in good standing, and must be admitted to "teacher education" in the Office of Admission to Teacher Education of the School of Education. Application for admission to teacher education should be filed during the first semester of the junior year or the first semester of attendance at the university, if the student enters with advanced standing.

Admission to teacher education is required of each student before he files the application for student teaching, †

A faculty committee will review information concerning the applicant's intellectual resources and mastery of important concepts in the common curricular areas of higher education, command of fundamental skills of communication (English language usage, written composition, speech, hearing, reading comprehension, handwriting, mathematical skills), scholarship, personality and character, interest in teaching, and health. Data related to these criteria are gathered from transcripts and records from other schools and colleges, group and individual tests, personality inventories, estimates of the potential of the applicant, and from the Student Health Center. Students should normally qualify for admission and be advised of their status during the second semester of the junior year or their first semester of attendance if they enter with advanced standing with degrees from accredited colleges or universities.

Students who show weaknesses in any of the fundamental skills of communication are advised of their standing. If there are weaknesses in only one or two of the areas noted above, the student will be advised of refresher courses and given a specified time to meet the standard.

If the applicant has serious deficiencies in communication skills or does not meet the standards of mastery in the common curricular areas, personality and character, scholarship, interest in teaching, or health, the faculty committee will deny admission to teacher education.

The student must arrange to take the required battery of group and individual tests and inventories necessary to provide information needed by the faculty committee. The tests of breadth of understanding, reading, English usage, number skills, composition, handwriting, and personality are given by the School of Education for admission to teacher education; consult the Office of Admission to Teacher Education of the School of Education for dates.

The student who comes to Cal State Fullerton to work toward a credential for teaching in a secondary school and who already has a bachelor's degree must, before he is admitted to teacher education,

[†] Exceptions will be made in the case of new transfer students.

consult with an adviser in the major and must submit a statement, signed by the adviser, which indicates the following:

- That the student's undergraduate preparation in his major is considered to be adequate for the credential sought, or
- 2. Specific courses which the student must complete to have a major adequate for the credential sought, and which he must complete before he will be admitted to student teaching. These may be in addition to the minimum of the six upper division or graduate units required in the major in the postgraduate year, or may, in part or in whole, satisfy this six unit minimum requirement.

Full details on standards and procedures for admission to teacher education are described in "Instructions and Standards for Admission to Teacher Education," which is available from the Office of Admission to Teacher Education and the Department of Teacher Education.

STUDENT TEACHING

Each candidate for the standard teaching credential with specialization in elementary school teaching will do his student teaching in the last semester of his senior year or in his postgraduate year at the university. Each candidate for the standard teaching credential with specialization in secondary school teaching, or for the specialization in community college teaching will do his student teaching during a postgraduate year. Details about student teaching in special education classes are available in the Department of Behavioral Sciences. Student teaching assignments are made in the elementary and secondary schools of districts geographically accessible to the university. Community college student teaching assignments are made in nearby community colleges. Students will be assigned to work under the supervision of carefully selected supervising teachers; a university supervisor makes frequent visits to the student teacher and the supervising teacher. Student teachers meet in a weekly seminar under the leadership of the university supervisor to discuss performance and problems.

Application for Student Teaching

Admission to teacher education as described above is the first step in a cumulative and continuing evaluation of a candidate's fitness to teach. The applicant for admission to student teaching must have a grade-point average of at least 2.5 in the major, 2.5 in the minor, and 2.5 in professional education. Marks of C, or better, are required in all professional education courses. Applicants for admission to elementary school student teaching must be classified as postgraduate students or be within 15 units of the baccalaureate degree. Applicants for admission to secondary school student teaching or to community college student teaching must be classifed as postgraduate students. All applicants must have completed at least 12 units at Cal State Fullerton. The applicant must present a favorable report on health status and history. He must present evidence of readiness for student teaching responsibility as testified by the major adviser, the professional adviser, and other university faculty. This evidence relates to scholarship, breadth of understanding, command of the subjects to be taught, fundamental skills of communication, personality and character, interest and potential for teaching, and health.

Competence is required in all subjects and skills for which the candidate is seeking a credential. For the elementary school teacher education student, this includes all subjects and skills commonly taught in the first eight grades of the public schools. Secondary school and community college teacher education students must meet the requirements for major and minor(s) as specified by the academic divisions.

All instructors of the university are asked to participate in the continuing evaluation of students in relation to those aptitude, personality and character traits which are considered essential to admission to the teaching profession. Dependability in fulfilling assignments, class attendance, ability to get along with people, industry, and emotional stability are representative criteria. In addition to the evaluations by instructors, the applicants may be interviewed by a faculty committee, and attention will be directed to general appearance, dress, vitality, poise, temperament, integrity and social attitudes.

The application for admission to student teaching is submitted to the coordinator of admissions to teacher education and student teaching. The application must be submitted by October 15 or March 1 of the semester preceding the semester in which the student teaching assignment is expected. A faculty committee will gather the information described above and report to the student in time to do planning for the following semester.

Except for graduate students who are in their first semester of study at Cal State Fullerton, applica-

tions will be accepted only from those who have completed all requirements for admission to teacher education.

Full details on standards and procedures are described in "Instructions and Standards for Admission to Student Teaching," available in the Department of Teacher Education.

Study Limits of Student Teachers

Students who enroll in Educ 339 or 739, Student Teaching in the Elementary School, will be limited to one additional course for that semester. Students who enroll in Educ 749, Student Teaching in the Secondary School, will be limited to two additional courses for that semester. It is expected that students will not carry out-of-university work responsibilities during the semester of the student teaching assignment.

If a student is under hardship because of these limitations, he may submit a petition to the coordinator of elementary education or to the coordinator of secondary education, as appropriate, requesting permission to carry not more than 13 units, including student teaching. The petition must set forth, in full, the circumstances necessitating the petition.

Permission to Substitute Teaching Experience for Student Teaching

A candidate for a teaching credential who has had two years of successful, regular teaching experience must petition the School of Education, through his professional adviser, for permission to substitute such experience for the student teaching requirement. Substitution of teaching experience for student teaching will be considered only if the applicant:

- 1. Has been admitted to teacher education at the university.
- Has submitted an official verification from his former supervisor, principal, or superintendent to the School of Education certifying at least two years of successful, regular teaching experience at the appropriate level. A letter of verification must be submitted to the Department of Teacher Education.

STATUTORY REQUIREMENTS FOR CREDENTIALS FOR TEACHING

The curricular requirements for credentials for teaching in California elementary schools, secondary schools and community colleges are included in the the curricula descriptions. Upon the completion of the requirements, the student will submit an application for a credential to the State Department of Education in Sacramento. On these applications the student is asked about his citizenship status, his professional conduct, and he is asked to sign an oath of allegiance. He must also submit a health examination form signed by a qualified physician, two fingerprint-identification cards and the legal fee, which is currently \$20. The forms are available in the Credentials Office of the university.

Curriculum in Elementary School Teacher Education *

The program leading to the recommendation for the standard teaching credential with specialization in elementary school teaching includes the following:

- 1. A bachelor's degree from an approved institution.
- 2. A fifth year of college or university postgraduate education taken at the upper division or graduate level. (If the student does not complete all requirements, the credential may be awarded on the basis of partial fulfillment at the end of four or more years of work if he has a bachelor's degree from an approved institution and has completed the student teaching requirement.)
- 3. A minimum of 45 semester hours in five of the following six areas: (1) social sciences, (2) natural sciences, (3) humanities (excluding foreign languages), (4) fine arts, (5) mathematics, and (6) foreign languages. The humanities requirement must include a year of English and a course in advanced composition. (To prepare himself to meet professional responsibilities, an elementary school teacher education candidate should include in his program Art 100, Music 101, PE 123, PE 149, and Speech Communication 100 or Speech Communication 102). These 45 semester hours of coursework for the credential can be met through the university general education requirements for the bachelor's degree with the proper selection of courses. (Not more than six hours of coursework taken to satisfy these requirements shall apply toward the fulfillment of the requirements for either a major or a minor.

Regulations for the credential are subject to change by the State Board of Education; any curricular changes will be available in later university publications.

- Three semester hours of coursework in the theory of the structure, arithmetic and algebra of the real number system or three semester hours of coursework in calculus. (Math Ed 103A meets this requirement.)
- 5. One of the following:
 - A. A major consisting of at least 24 semester hours of upper division or graduate level courses in an academic subject matter area commonly taught in the public elementary schools. These majors are currently available for this specialization at the university: American studies, anthropology, art, biological science, chemistry, communications with a journalism emphasis, comparative literature, drama, economics, English, French, geography, German, history, linguistics, mathematics, music, philosophy, physics, political science, psychology, sociology, Spanish, speech. (Note: the specifications above are state minima, and do not necessarily satisfy requirements for a major for graduation from the university.)
 - B. A major and a minor, each of which is in a subject matter area commonly taught in the public elementary schools, and one of which is in an academic subject matter area. The academic major shall consist of at least 24 semester hours of upper division or graduate coursework. If the major is not an academic one, it shall consist of 28 semester hours of upper division or graduate coursework. (With a nonacademic major, i.e., business administration or physical education, only the major and minor subjects may be taught in kindergarten and grades 1 through 9.) This minor shall consist of a minimum of 20 semester hours of coursework. When the major is in an academic subject matter area specialized preparation in such areas as mentally retarded or speech and hearing handicapped may be substituted.
 - C. Two minors in subject matter areas commonly taught in the public elementary schools and a major, other than education and educational methodology, not commonly taught therein. If the major is not in an academic subject matter area, each minor shall be in an academic matter area. (With a nonacademic major only the major and minor subjects may be taught in kindergarten and grades 1 through 9.) If the major is in an academic subject matter area, one of the minors shall be in an academic subject matter area. These minors shall consist of a minimum of 12 semester hours coursework. Specialized preparation in such areas as mentally retarded or speech and hearing handicapped may be substituted for one of the minors.
- 6. Courses selected from the following ones offered by academic departments as part of the basic preparation for elementary teachers. A minimum of three courses, selected with the approval of a professional adviser, must be completed before student teaching.

Art 380 Art and Child Development (3)

English 433 Children's Literature (3)

Math Ed 103B Fundamental Concepts of Mathematics (3)

Music 333 Music and Child Development (3)

PE 333 Physical Education and Human Development (3)

Sci Ed 310 Elementary Experimental Science (3)

7. Professional education requirements which are currently met by the following program:

Educ 331A Elementary School Principles, Curricula, and Methods: Mathematics, Science, and Social Studies (4)

Educ 331B Elemenary School Principles, Curricula and Methods: Language Arts and Reading (4)

Educ 339 or 739 Student Teaching in the Elementary School (8)

Educ 401 Social Foundations of Education (4)

Educ 411 Psychological Foundations of Education (3)

Educ 496 Senior Educational Practicum, Elementary (1)

Note: Admission to the university does not include admission to the elementary teacher education program. Procedures for admission to teacher education are outlined on page 194. It is the responsibility of each student to file an application for admission to teacher education in his junior year and to complete the requirements for admission to teacher education before enrolling in Educ 331.

Admission to teacher education does not include admission to student teaching. Each student is responsible for meeting the requirements and following the procedures for admission to student teaching given on page 195.

Composite Lower Division, Upper Division, and Fifth Year Work

A student seeking recommendation for the standard teaching credential with specialization in elementary school teaching after five years of preservice teacher education should complete—

In the lower and upper division:

a. Coursework listed in 3, 4 and 5 above.

- b. A minimum of three courses from item 6 above. These courses are to be selected in consultation with and with the approval of his professional adviser.
- c. Courses in professional education

Junior year, Educ 411 (3) and 496 (1)

Senior year, second semester, 331A (4) and 331B (4)

d. Additional courses selected in consultation with his professional adviser.

In the fifth year:

- a. Courses in professional education First semester, Educ 739 (8) Second semester, Educ 401 (4)
- Additional courses from item 6 above as needed and other courses selected in consultation with his professional adviser.

(The applicant for the standard teaching credential with specialization in elementary school teaching must complete 30 units of upper division and/or graduate work after he has completed all requirements for the bachelor's degree.)

A student seeking the standard teaching credential with specialization in elementary school teaching on partial fulfillment of requirements should complete—

In the lower and upper division:

- a. Coursework listed in 3, 4, and 5 above.
- b. A minimum of three courses from item 6 above. These courses are to be selected in consultation with and with the approval of his professional adviser.
- c. Courses in professional education

Junior year, Educ 411 (3) and 496 (1)

Senior year, first semester, 331A (4) and 331B (4)

Senior year, second semester, Educ 339 (8)

d. Additional courses selected in consultation with his professional adviser

In the fifth year (to be completed during the first seven years of teaching):

a. Courses in professional education

Educ 401 (4)

 Additional courses from item 6 above as needed and other courses selected in consultation with his professional adviser.

(The applicant for the standard teaching credential with specialization in elementary school teaching must complete 30 units of upper division and/or graduate work after he has completed all requirements for the bachelor's degree.)

Alternate Program, Internship

An alternate program (internship teaching) leading to the recommendation for the standard teaching credential with specialization in elementary school teaching is available for those who meet the requirements.

This program fulfills the fifth year (30 units beyond the bachelor's degree) requirement and qualifies the candidate for the standared teaching credential with an elementary specialization.

This program extends over two summers and two semesters. A student must begin the internship program in the summer preceding his internship teaching.

Standards for admissions to the internship program:

- a. A bachelor's degree from an approved institution with a major consisting of at least 24 semester hours of upper division or graduate level courses in an academic subject matter area commonly taught in the public elementary schools.
- b. A minimum of 45 semester hours in five of the six areas outlined in No. 3 on page 196.*

^{*} For those who do not meet this requirement, but otherwise qualify for the internship, a program will be planned so that the individual can enter the internship program and meet the requirements of the Curriculum in Elementary School Teacher Education.

- c. Three semester hours of course work in mathematics outlined in No. 4 on page 197.
- d. No teaching experience.
- e. A grade-point average of 2.5 in the major.
- f. Minimum achievement requirements on the Graduate Record Examination for admission to graduate study.
- g. Screening by faculty in elementary teacher education and by cooperating school districts.
- h. Sponsorship by a school district as an intern in elementary school teaching.

Courses in the program include selection from No. 6 on page 195, the courses in No. 7 on page 197, Educ 496, 537, 595, and one or more electives from the following:

Educ 503 Graduate Studies in Elementary Education: Foreign Languages (3)

Educ 531 Graduate Studies in Elementary Education: Language Arts (3)

Educ 532 Graduate Studies in Elementary Education: Mathematics (3)

Educ 533 Graduate Studies in Elementary Education: Science (3)

Educ 534 Graduate Studies in Elementary Education: Social Studies (3)

Curriculum in Secondary School Teacher Education †

Credential requirements and the program leading to the recommendation for the standard teaching credential with specialization in secondary school teaching includes the following:

- 1. A bachelor's degree from an approved institution.
- 2. A fifth year of university or university postgraduate education taken at the upper division or graduate level. (The postgraduate year is defined by California State University, Fullerton as 30 semester units of upper division or graduate level coursework competed after the bachelor's degree. Coursework taken through extension at this university and summer workshops offered at this university may be used as coursework applying towards the fifth-year requirement.)
- 3. Forty-five semester hours of coursework, including the English and the competency described below, and including *four* of the following six areas: (1) humanities (excluding foreign languages), (2) social sciences, (3) natural sciences, (4) mathematics requiring as a prerequisite an understanding and knowledge of high school algebra and geometry, (5) fine arts, and (6) foreign languages. The humanities requirement must include a year of English, and in addition, the applicant for the credential shall demonstrate competence in composition either by passing a course in advanced composition or by passing an examination in lieu thereof.
 - (*Note:* This 45 semester hours of coursework for the credential can be met through the university general education requirement for the bachelor's degree with proper selection of courses. Not more than six hours of coursework taken to satisfy these requirements shall apply toward the major or minor for the credential.)
- Preparation in subject matter areas commonly taught in the public secondary schools for the purpose of *credential* requirements for majors and minors.
 - a. One of the following:
 - Option 1. A major in an academic subject matter area commonly taught in the public secondary schools.
 - Option 2. A major and a minor, each of which is in a subject matter area commonly taught in the public high schools, and one of which is in an academic subject matter area.
 - b. Major requirements for the credential must include at least 24 upper division and graduate level units. At least six units in the major must be taken at the graduate level. Six postgraduate units in the minor may be taken in lieu of this requirement for the major. See the general course numbering code on page 93 for the description of graduate level courses for the credential. Also see the appropriate sections of this catalog for descriptions of requirements in specific majors. The university will recognize single subject areas as satisfying Option 1 provided the student supplies additional upper division or graduate units in supporting areas structured by the department in which the baccalaureate degree is taken and in consultation with the other departments involved. This option should be considered carefully, since it may not be practical in terms of job placement. Some departments of the university will

[†] This is the curriculum for the standard teaching credential with specialization in secondary school teaching. Credential requirements are subject to regulatory changes. Any such changes will be described in later university publications.

200 Education

- require that the student must present a minor. Students must consult with academic and professional advisers concerning Option 1.
- c. Minor requirements vary, but must include 20 units in a single subject in this credential program at Cal State Fullerton. (Note: A minor is not required for graduation from the university but is required for the recommendation of the university for Option 2.)

Each student will complete a major planned with and approved by his major adviser. Majors presently available are: American studies, art, biology, business administration, chemistry, communications with journalism emphasis, economics, English, French, geography, German, history, mathematics, music, physical education, physics, political science, Spanish, speech communication and theatre arts.

Each student will complete a minor planned with and approved by his professional adviser. Minors presently available are: American studies, art, biology, business education, chemistry, communications with journalism emphasis, economics, English, French, geography, German, history, mathematics, music, physical education, physics, political science, Spanish, speech communication and theatre arts. Students may also present specialized preparation to serve as a teacher of exceptional children in the area of the mentally retarded or speech and hearing handicapped in lieu of the minor.

Students majoring in business administration and physical education must have an academic minor with a minimum of 20 units in subjects commonly taught in the public secondary schools. Students with these majors must complete 12 units of upper division or graduate level work in the minor area.

Credential requirements in courses for preservice professional education are met in the following program in professional education:

Courses in Professional Education

C Tarrest Car	The provided and business are conserved and services and services and services and services and services are services and services and services are services are services and services are	Units
Educ 340	Principles and Curricula of Secondary Education	
		1
	Social Foundations of Education	4
Educ 411	Psychological Foundations of Education	3
Educ 496	Senior Educational Practicum, Secondary	1
Educ 442	Teaching (art, English, etc.) in the secondary Schools (also listed in respec-	
tive d	epartments)	2
Educ 449	Fieldwork in Methods of Teaching in Secondary Schools	1
Educ 749	Student Teaching (art, English, etc.) in the Secondary School and Seminar	
(also	listed in respective departments)	6

Students normally will begin their work in professional education in the junior year, and it is expected that, except for Educ 401, the courses above will be taken in the indicated sequence. Students who begin their work in professional education as seniors or as graduate students will follow a somewhat different sequence, and should consult professional advisers when planning their programs. Graduate students without professional education backgrounds may be required to extend their program beyond a single academic year to complete the university secondary school teacher education program. Coursework taken in extension at other institutions is not acceptable in substitution for any of the above courses. In all cases, students are required to take Educ 340 the first semester they are enrolled in professional education.

Note: Admission to the university does not include admission to the secondary school teacher education program. See the description on page 194 for the procedures for admission to teacher education which does include admission to this credential program. It is the responsibility of each student to file his application for admission to teacher education by the end of the semester in which he completes Educ 340. It is also the responsibility of each student to arrange to complete his requirements for admission to teacher education early in his work in professional education. Students must be admitted to teacher education prior to taking Educ 442 and 449.

Admission to teacher education does not include admission to student teaching. See the description of the procedures for admission to student teaching on page 195. The student must observe the deadline and must meet other requirements for admission to student teaching.

Curriculum in Community College Teacher Education

The program requirements leading to the university-recommended Standard Teaching Credential with a specialization in community college teaching are:

- 1. A master's or higher degree from Cal State Fullerton or other accredited institution.
- 2. Preparation in subject matter areas commonly taught in community colleges in either of the following:
 - a. An academic major in a single subject commonly taught in community colleges. (The subject in which a master's degree has been granted constitutes a major in that subject for these purposes.)
 - b. If the major is nonacademic (the candidate holds a master's degree in a subject such as business administration or physical education), the candidate must have an academic minor of a minimum of 20 semester hours in a single subject commonly taught in the community college. Twelve of the units in the minor must be of upper division or graduate level.
- 3. Professional education requirements in Cal State Fullerton recommended program:

		Unit
Educ 744	Principles of Community College Teaching	3
Educ 799	Community College Student Teaching and Seminar	4

Admission to Community College Teacher Education Program

Admission to the university does not constitute admission to community college teacher education. The candidate must:

Have a masters or higher degree from a fully accredited institution in a field in which the university offers a major

01

have classified graduate status (master's degree candidacy) at Cal State Fullerton and possess a baccalaureate degree.

Admission to community college teacher education follows in general the procedure described on page 200. For exact procedures see Office of Admissions to Teacher Education.

The student is responsible for filing his application for admission as early as possible and is also responsible for admission to teacher education.

Application for community college student teaching and seminar is not included in admission to the program. The student is responsible for following the procedures listed on page 195 under "Application for Student Teaching."

The courses in professional education listed above will be taken in sequence. The student must have postgraduate standing before he enrolls in these courses. Student teaching may be taken in either the last semester in which the master's degree will be completed or after the degree has been granted.

Note: The above is a description of the program leading to the recommendation of the university for the credential. This program includes student teaching and work in professional education not required by the state. The university program is designed to meet the job placement needs of candidates for positions in community colleges.

GRADUATE PROGRAMS

MASTER OF SCIENCE IN EDUCATION

This degree is reserved for professionally qualified graduate students who desire to prepare for or advance their careers in *elementary curriculum and instruction*.

Prerequisites

To be admitted to the program, students must have a basic teaching credential or equivalent experiences, an approved major (minimum of 24 units upper division or graduate), acceptable scores on the Graduate Record Examination (aptitude test), a 2.5 grade-point average on previous academic and related work, satisfactory interview, references and autobiography. Credit will be given for previous postbaccalaureate studies when possible. Otherwise well-qualified students may be admitted with limited subject or grade deficiences, but these deficiences must be removed. Grade-point average deficiences may be removed by a demonstration of competency in the graduate program.

Programs of Study

	outside elementary education	Units 9
Two of the f		di the
	Comparative Education (3)	
	History of Education (3)	
Educ 406	Educational Sociology (3)	
Educ 452		
Educ 501		
The second secon	Theory and Practice in Measurement (3)	
Educ 510	Research Design and Analysis (3)	
Educ 511	Survey of Educational Research (3)	
Other advise	r-approved courses (3)	
THE STREET	mercus, entresements, music direvical education, abvisco, palatral science.	Units
Coursework	in elementary education	15
	Curriculum Theory and Development (3)	
Three of t	ne following:	
Educ 530	Graduate Studies in Elementary Education:	
	Foreign Languages (3)	
Educ 531	Graduate Studies in Elementary Education:	
crombas ned	Language Arts (3)	
Educ 532	Graduate Studies in Elementary Education:	
hodiverse an	Mathematics (3)	
	Graduate Studies in Elementary Education: Science (3)	
Educ 533		
Educ 533 Educ 534		
Educ 534	Graduate Studies in Elementary Education:	
Educ 534 Educ 537 One of the	Graduate Studies in Elementary Education: Social Studies (3) Seminar for Elementary Education (3) e following:	
Educ 534 Educ 537 One of the Educ 59	Graduate Studies in Elementary Education: Social Studies (3) Seminar for Elementary Education (3) e following: 7 Graduate Project (1–3; total of 3)	
Educ 534 Educ 537 One of the Educ 59	Graduate Studies in Elementary Education: Social Studies (3) Seminar for Elementary Education (3) e following:	
Educ 534 Educ 537 One of the Educ 59 Educ 59	Graduate Studies in Elementary Education: Social Studies (3) Seminar for Elementary Education (3) e following: 7 Graduate Project (1–3; total of 3)	

TEACHER EDUCATION PRESERVICE COURSES

308 Education of Various Cultural Groups: Early Childhood (3)

A course designed for Head Start personnel and others engaged in the early education of culturally different children. Focus will be on the development of learning, curriculum content, and methodology related to various cultural groups. (2 hours lecture, 2 hours activity)

309 Fieldwork in the Education of Various Cultural Groups (3)

Observation and participation in classes for various cultural groups. Integrated with coursework in Education of Various Cultural Groups. Must be taken concurrently with Educ 308. (9 hours laboratory)

331A Elementary School Principles, Curricula and Methods (4)

Prerequisites: Educ 411, 496, Math Ed 103A and admission to teacher education. Must be taken concurrently with 331B. Principles, curricula, methods and materials of elementary school instruction with major emphasis on arithmetic, social studies and science. Includes audiovisual instruction, methods and techniques. Required of all candidates for the standard teaching credential with specialization in elementary school teaching. Includes screening for admission to student teaching. (2½ hours lecture, 1½ hour activity)

Se

331B Elementary School Principles, Curricula and Methods (4)

Prerequisites: Educ 411, 496 and admission to teacher education. Must be taken concurrently with Educ 331A. Principles, curricula, methods and materials of elementary school instruction with major emphasis on language arts and reading. Two semester hours devoted to methods of reading instruction, including phonics. Required of all candidates for the standard teaching credential with specialization in elementary school teaching. Includes screening for admission to student teaching. (2½ hours lecture, 1½ hour activity)

339 Student Teaching in the Elementary School and Student Teaching Seminar (8 or 4)

Prerequisites: Educ 331, three academic related courses, and admission to student teaching. Participation in a regular elementary school teaching program for the greater part of every school day. Includes a two-hour seminar each week in problems and procedures of elementary school teaching. Concurrent enrollment in other courses is discouraged. (Minimum of 30 hours a week in an elementary school, 2 hours per week seminar.)

340 Principles and Curricula of Secondary Education (3)

Required first course in the professional sequence for the standard teaching credental with specialization in secondary teaching. Principles of secondary education in the United States: organization, curriculum, and teaching practices. Correlated with methods and materials courses in the major. Two hours of observation per week in selected junior and senior high school classes. Application for admission to teacher education is included. Each student is expected to complete all requirements for admission during Educ 340. (2 hours lecture, 2 hours fieldwork)

431 Principles and Curricula of the Elementary School (2)

Prerequisite: Educ 411 or consent of instructor. An introductory course in elementary education.

Stress on major principles and basic curricular considerations. Importance of the elementary school system to society.

432 Teaching—in the Elementary School

Prerequisite: Educ 411 or consent of instructor. Courses, listed dually in the School of Education and in the other appropriate departments dealing with objectives, methods, and materials of teaching the various subjects and areas in the elementary schools. The courses are professional education courses and applicable toward credential requirements. Detailed descriptions of the courses are to be found in the materials of other departments within this catalog.

For Lang Ed 432 Teaching Foreign Languages in the Elementary School (2)

436 Child Study Techniques for Teachers (3)

Prerequisite: Educ 331 or consent of instructor. Techniques the classroom teacher may use in understanding individual children within his classroom who do not respond to the teacher and his peers in typical ways.

437 Early Childhood Education (3)

Prerequisite: consent of instructor. Study of current literature and recent research in the area of education of young children through individual and group study. Emphasis will be placed on problems centered in cognitive processes, content, structure and instruction at the early childhood education level.

442 Teaching—in the Secondary School (2)

Prerequisites: 20 units in the major, Educ 411, 496, 340, admission to teacher education, and senior standing; or consent of instructor. A series of courses, with the exception of business and social science methods, listed dually in the School of Education and in the other appropriate departments, dealing with objectives, methods, and materials of teaching, including audiovisual instruction, the various subjects and areas in secondary schools. Required, before student teaching, of students presenting major in these areas or subjects for the standard teaching credential with specialization in secondary school teaching. Students without teaching experience must register concurrently in Educ 449 to complete a teacher aide assignment in high schools.

Art Ed 442 Teaching Art in the Secondary School (4)

Educ 442 Teaching Business in the Secondary School (2)

Educ 442 Teaching Social Science in the Secondary School (2

Engl Ed 442 Teaching English in the Secondary School (2)

For Lang Ed 442 Teaching Foreign Languages in the Secondary School (2)

Journ Ed 442 Teaching Journalism in the Secondary School (2)

Math Ed 442 Teaching Mathematics in the Secondary School (2)

Mu Ed 442 Principles and Methods of Teaching Music in the Public Schools (4)

PE 442 Teaching Physical Education in the Secondary School (2)

Sci Ed 442 Teaching Science in the Secondary School (2)

Speech Ed 442 Teaching Speech in the Secondary School (2)

Theatre Ed 442 Teaching Theatre in the Secondary School (4)

443 Principles of Core Curriculum (2)

Prerequisite: teaching experience or consent of instructor. Unity and interrelationships of human learning and behavior and the curricular processes and arrangements by which this may be achieved. Seminar on development, principles, and application of core curricula; guidance functions; evaluation; and roles of the teacher.

445 Junior High School Education (3)

Prerequisite: Educ 442 or 331 or consent of instructor. Seminar on principles and procedures for developing the junior high school program. Purposes, curriculum, and organization of the junior high school are stressed including examination of recent innovations and proposals. Designed for students with elementary or secondary backgrounds who plan to teach in the junior high school.

446 Secondary School Curriculum (3)

Prerequisite: student teaching or teaching experience or consent of instructor. Fundamentals of curriculum development. Seminar on current issues within secondary education. Curricular organization and current practices. Survey and evaluation of newer curricular programs.

449 Fieldwork in Methods of Teaching in Secondary Schools (1)

Prerequisite: Educ 340, 411, admission to teacher education or consent of instructor. Participation in the instruction of a secondary school class as a teacher aide. Integrated with coursework in the teaching of the major. Must be taken concurrently with Educ 442 and students must allow sufficient time in their schedules, at the same hour each day, to serve as a teacher aide.

451 Principles of Educational Measurement (3)

Prerequisite: Educ 411 or Psych 311. Development, validation, and application of the principles of educational measurement. Construction and use of informal and standardized achievement tests.

Summary and interpretation of results of measurement.

491 Audiovisual Education (2)

Prerequisites: Educ 411, 442, or consent of instructor. Media in communication, psychological bases, development, curricular function, evaluation. Survey of equipment and materials available, preparation of instructional materials for classroom use. (1 hour lecture, 2 hours activity)

492 Television in the Classroom (2)

Prerequisite: Educ 411 or consent of instructor. Television as a vehicle for instruction, information, and enrichment. General theory of media in classroom, psychological bases, curricular capabilities and limitations of equipment. Responsibility of the classroom teacher. Practice in utilization process. (1 hour lecture, 2 hours activity)

493 Production of Audiovisual Materials (2)

Prerequisite: Educ 491 or consent of instructor. Exploration and development of audiovisual materials. Students will participate in script writing, story board, photography and tape production. Experience will be provided in producing graphics, charts and bulletin boards. (1 hour lecture, 2 hours activity)

496 Senior Educational Practicum (1-3)

Conduct at an advanced level an educational practicum experience with an individual under the direction of a faculty member. May be repeated for a maximum of six units of credit.

499 Independent Study (1-3)

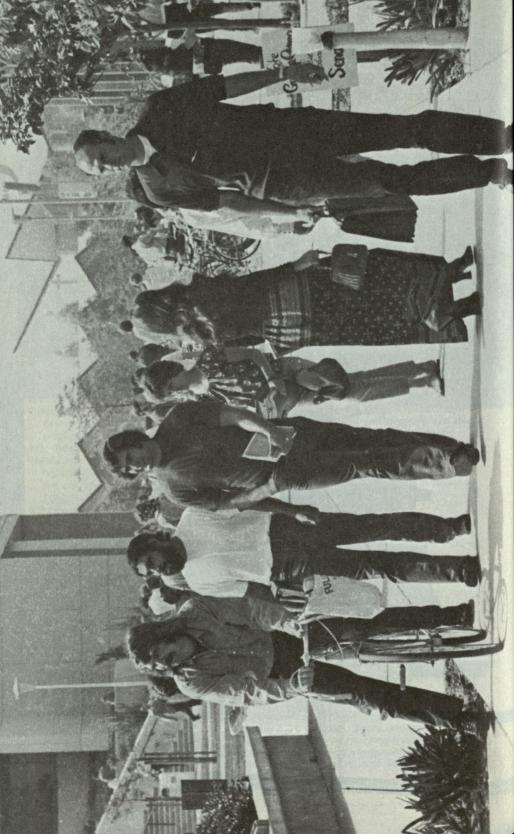
Prerequisites: senior or graduate standing, consent of instructor and department prior to registration. Conduct of an individual investigation under supervision of a faculty member; investigation might be an experiment, a library study, or a creative project; only students of demonstrated capacity and maturity will be approved; adequate prerequisite study necessary. May be repeated for credit.

GRADUATE COURSES

509 Theory and Practice in Educational Measurement (3)

Prerequisite: Educ 411 or Psych 311. Introduction to basic concepts, theory, and procedures for construction of informal and standardized tests. Application of measurement theory and statistical techniques toward problems of analysis, scaling, norming, and interpretation of test results. Practice in item writing for short classroom tests and intensive analysis of selected commercial standardized tests.





510 Research Design and Analysis (3)

Prerequisites: bachelor's degree, Educ 509 or the equivalent. Elements of design, instrumentation, treatment of data, hypothesis testing and inference, and analysis of educational data. Develop a research proposal. Practice in analyzing and evaluating research reports.

511 Survey of Educational Research (3)

Prerequisites: Educ 509, teaching experience. Review of descriptive statistics and statistical inference as applied to educational problems. Analysis of representative research papers. Principles of research design. Prepare a research proposal.

530 Graduate Studies in Elementary Education: Foreign Language (3)

Prerequisite: Educ 339 or 739, or consent of instructor. Seminar for the study of pertinent investigations and their appliction in the classroom together with significant curriculum developments and organization in the area of second language learning in the elementary school, including English as a foreign language. Criteria for appraising programs, personnel, and materials also will be discussed.

531 Graduate Studies in Elementary Education: Language Arts (3)

Prerequisite: Educ 339 or 739 or consent of instructor. Seminar for advanced study of trends and problems in teaching the fundamental skills of communication in the elementary school. Analysis of research in the language arts and related disciplines as background for curriculum development.

532 Graduate Studies in Elementary Education: Mathematics (3)

Prerequisites: Math Ed 103A, Educ 339 or 739, or consent of instructor. Seminar for the study of significant research, curricular developments and materials, criteria for planning and improving mathematics programs and instruction.

533 Graduate Studies in Elementary Education: Science (3)

Prerequisite: Educ 339 or 739 or consent of instructor. Seminar for the study of significant research in elementary school science. Criteria for planning and improving science programs and the development of materials.

534 Graduate Studies in Elementary Education: Social Studies (3)

Prerequisite: Educ 339 or 739, or consent of instructor. Seminar for the study of significant research developments and materials, criteria for planning and improving social studies programs and current techniques of teaching.

537 Seminar for Elementary Education (3)

Prerequisite: Educ 339 or 739 or consent of instructor. A study of problems and issues in elementary education, their causes and possible solutions.

547 Seminar for Secondary Education (3)

Prerequisite: Educ 749 or consent of instructor. Persistent problems in secondary education and survey of related literature; causes of and solutions for these problems. Application of scientific method to educational poblems, sources of educational research, and to techniques of cooperative thinking.

595 Advanced Studies (1-3)

Graduate seminars designed to develop professional competencies in such areas as behavior, teaching strategies, educational technology, program development, communication theory and interpersonal relations. May be repeated for credit.

597 Project (1-3)

Prerequisite: consent of instructor. Individual research on an empirical project, with conferences with the instructor, culminating in a project.

598 Thesis (1-3)

Prerequisite: consent of instructor. Individual research with conferences with the instructor, culminating in a thesis.

599 Independent Graduate Research (1-3)

Prerequisite: consent of instructor. Open to qualified graduate students desiring to pursue independent inquiry.

PROFESSIONAL COURSES IN THE POSTGRADUATE PROGRAM

709 Supervision of Student Teaching (3)

Prerequisites: possession of a teaching credential and one year of teaching experience. Designed for teachers who supervise student teachers. Emphasis on principles and procedures of effective supervision and research.

721 Philosophy and Objectives of Community College Education (2)

Prerequisite: postgraduate standing or consent of instructor. Origins of the junior college movement in higher education in the United States; economic, technologial, and social forces creating needs for new and different post-high school education; objectives of community college education; relationships to secondary and higher education; functions of the community college; curriculum development and organization.

739 Student Teaching in the Elementary School and Student Teaching Seminar (8 or 4)
Prerequisites: Educ 331, three academic related courses, admission to student teaching, and postgraduate status. Participation in a regular elementary school teaching program for the greater part
of every school day. Includes a two-hour seminar each week in problems and procedures of
elementary school teaching. Concurrent enrollment in other courses is discouraged. (Minimum
of 30 hours a week in an elementary school, 2 hours per week seminar.)

744 Principles of Community College Teaching (3)

Prerequisite: postgraduate standing or consent of instructor. Psychological foundations of community college teaching, measurement and evaluation of learning. Educational and philosophical bases for instructional procedures in the community college. Instructional procedures including audiovisual materials, community college class observations. (2 hours seminar, 3 hours fieldwork)

749 Student Teaching In—in the Secondary School and Seminar (6 or 2)

A series of courses in student teaching and seminars listed dually in the School of Education and in the other appropriate departments.

Prerequisites: Educ 442, 449, and admission to student teaching. Student teaching for the general secondary credential or the standard teaching credential with specialization in secondary school teaching. Participation in a regular secondary school teaching program for half-days for a full semester. Includes a seminar each week in problems and procedures of secondary school teaching, under the direction of the respective university supervisor. (Minimum of 15 hours a week in a secondary school; 2 hours per week in seminar)

Art Ed 749 Student Teaching in Art in the Secondary School and Seminar (6)
Educ 749 Student Teaching in Business in the Secondary School and Seminar (6)
Educ 749 Student Teaching in Social Science in the Secondary School and Seminar (6)
Engl Ed 749 Student Teaching in English in the Secondary School and Seminar (6)
For Lang Ed 749 Student Teaching in Foreign Languages in the Secondary School and Seminar (6)

Journ Ed 749 Student Teaching in Journalism in the Secondary School and Seminar (6)
Math Ed 749 Student Teaching in Mathematics in the Secondary School and Seminar (6)

(6)

Mu Ed 749 Student Teaching in Music in the Secondary School and Seminar (6)

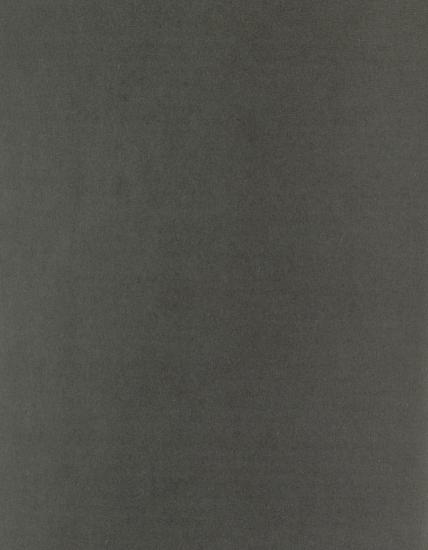
PE 749 Student Teaching in Physical Education in the Secondary School and Seminar Sci Ed 749 Student Teaching in Science in the Secondary School and Seminar (6)

Speech Ed 749 Student Teaching in Speech in the Secondary School and Seminar (6) Theatre Ed 749 Student Teaching in Theatre in Secondary School and Seminar (6)

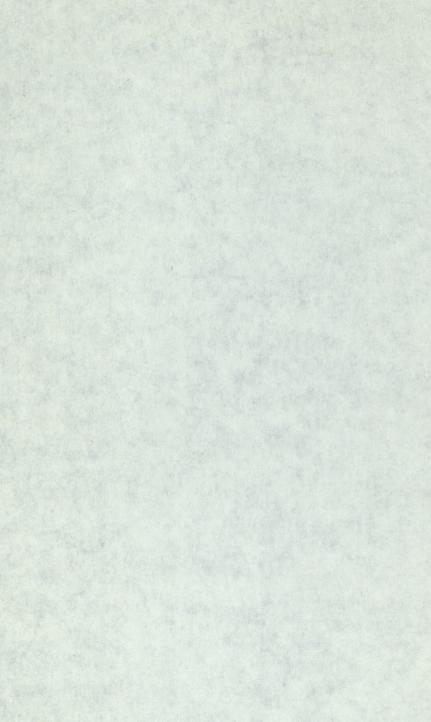
799 Community College Student Teaching and Seminar (4)

Prerequisite: Educ 744. Student teaching in the student's major field in a cooperating community college for one semester. Weekly seminar on curriculum development and organization in the community college, instructional procedures and materials, and instructional problems of the community college student teacher. (Minimum of 9 hours a week in a community college; 2 hours per week in seminar)





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SCHOOL OF ENGINEERING

Acting Dean: Eugene B. Hunt

FACULTY

George Chiang

Chairman, Civil Engineering and Engineering Mechanics

Jack Kemmerly

Chairman, Electrical Engineering

Floyd Thomas, Jr.

Chairman, Mechanical and Aerospace Engineering

George Cohn, Munir El-Saden, Walter Hudetz, Jesa Kreiner, Sundaram Krishnamurthy, Young Duck Kwon, Wai Kok Lim, Charles Medler, Peter Othmer, Irene Petroff, James Rizza, Jesus Tuazon, Mahadeva Venkatesan

The School of Engineering offers programs at the undergraduate and graduate levels. The individual courses are described in the section of this catalog on announcement of courses. At the undergraduate level the school prescribes certain patterns of courses combined with those of other academic departments and schools of the university, as a program of 132 semester units leading to the degree of Bachelor of Science in Engineering. At the graduate level the school offers a sequence of courses as a program of 30 semester units leading to the degree of Master of Science in Engineering. In the graduate program specific options in major fields are offered.

BACHELOR OF SCIENCE IN ENGINEERING

The objective of the undergraduate engineering program is to form a broad base of science, mathematics, social science, humanities and engineering science—coupled with enough specialization in an area of concentration to initiate a successful engineering career. Students are prepared to enter directly into engineering practice or to continue further education at the graduate level.

The heart of the engineering program is a core curriculum somewhat broader than that of the traditional engineering program. This core includes courses in mathematics, physics, chemistry, basic engineering sciences, social sciences and the humanities and provides a firm basis for more specialized knowledge at an advanced level. Beyond the basic core curriculum a student chooses a minimum of 30 units of technical electives to complete his program with enough specialization in an area of emphasis to initiate a successful engineering career. During the first $2\frac{1}{2}$ years of study all students in engineering take the same program emphasizing the inter-relationship of the primary engineering subjects which form the broad background required of modern-day engineers.

The program of 132 semester units presumes that the entering student brings a high school preparation which includes geometry, trigonometry and two years of algebra. Physics and chemistry are highly desirable. Students deficient in mathematics must take a special preparatory course, Engineering 100, Introduction to Analysis, or equivalent, which will not carry credit for graduation.

Transfer Students

A transfer student shall complete a minimum of 24 units in residence of which at least 15 shall be taken in upper-division engineering courses. Work taken at another college or university on which a grade of D was earned may not be substituted for upper-division courses.

A smooth transition from a community college into upper-division engineering is assured when the following program, as a minimum, has been completed. Students deficient in any of these areas may look to the summer session bulletin for offerings that may make up any deficiencies:

Minimum Number of Semester Units Analytic geometry and calculus 14 Chemistry (for engineering and science majors) 8 Physics (for engineering and science majors) 12 Engineering graphics 2 Properties of engineering materials..... 2 Computer programming (FORTRAN) 3 Analytical mechanics (statics) 3

Engineering Liaison Committee Statement

The School of Engineering subscribes to the following statement approved by the Engineering Liaison Committee of the State of California:

"Based on the 1970–71 requirements, any student of a California community college, with a stated major in engineering, who presents a transcript showing satisfactory completion of the following proposed core program in lower division, will be able to enroll in this institution with regular junior standing; and further, assuming normal progress, said student can complete an engineering program in four additional semesters with a regular bachelor's degree, presuming, upon transfer, that he has completed at least 50 percent of the graduation unit requirements in that program. Completion of a specific program of his choice will be dependent upon his proper selection of elective courses.

	Semester	Ouarter
Subject Area	Units	Units
Mathematics (beginning with analytical geometry and calculus and completing		
a course in ordinary differential equations)	16	24
Chemistry (for engineers and scientists)		12
Physics (for engineers and scientists)	12	18
Statics	3	4
Graphics and descriptive geometry	3	4
Computers (digital)	2	3
Orientation and motivation	1	1
Properties of materials	3	4
Electric circuits	3	4
Electives	11-15	17-23''

Technical Electives

During the junior year the student shall submit for approval a proposed study plan to his faculty adviser covering the sequence of upper-division level courses totaling not less than 30 units in engineering. While his study plan need not be contained within one area of emphasis, it shall include a sufficient number of courses to provide continuity and depth of understanding within a given area of specialization. It shall also include two senior laboratory courses and one design course and the prerequisite courses thereto. This study plan must be approved by the student's adviser before taking any technical electives.

Areas which students may wish to emphasize are civil engineering and engineering mechanics, electrical engineering, and mechanical and aerospace engineering. Within the overall concept of a broad general background with enough specialization to become a productive engineer upon graduation, a student may further specialize in such areas as electronics, communications, control systems, digital systems, aeronautics, heat and mass transfer, thermal sciences, mechanical design, structural systems and design, applied mechanics and environmental studies.

Upon special application, students may be considered for an engineering science program. The program in engineering science is to be selected by the student and his adviser and submitted for approval to a committee of the School of Engineering (supplemented, if appropriate, by members of the science and mathematics faculty). Such a program must include the two senior engineering laboratories and senior engineering design course and their prerequisites. Courses are to be selected from upper division engineering, science and mathematics offerings to meet a special and specific engineering science objective of the student such as engineering physics.

MINIMUM REQUIREMENTS FOR UNDERGRADUATE DEGREE Lower Division Science and Mathematics (All required for B.S.)

*Math 150A, B Analytic Geometry and Calculus	Units 8
Math 250 Intermediate Calculus	4
Math 281 Linear Algebra with Differential Equations	3
Chem 101A General Chemistry	5

^{*} Students with inadequate preparation for Math 150A will take Egr 100, Introduction to Analysis.

Engineering	215
Chem 105 General Chemistry for Engineers	3
Physics 225A,B,C Fundamental Physics	9
Physics 226A,B,C Fundamental Physics Laboratory	3
	<u> </u>
	35
The engineering Student will take at least 24 units from Areas II and III of the general educ requirements for the bachelor's degree (see page 67), six units of which may meet the history and government requirements. He will follow, as a minimum, the universitywide rements, adding courses at his discretion to make 24 units. An additional four units, for a of 28 must be specifically approved by his adviser and will be recommended to assure the balance for the student's education. A student shall be limited to a maximum of six un activity courses.	e U.S. quire- total e best
ticale of at the armonical backership to the state of the same property of the same of the	
ower Division Engineering (All required for B.S.)	100
Egr 101 Introduction to Engineering	1
Egr 102 Graphical Analysis	2
Egr 201 Mechanics	3
Egr 202 Properties of Engineering Materials	3
Egr 205 Digital Computation	3
	12
Upper Division Engineering (All required for B.S.)	
Egr 300 Electric Circuits	3
Egr 300L Electric Circuits Laboratory	1
Egr 302 Dynamics	3
Egr 303 Electronics	3
Egr 303L Electronics Laboratory	2
Egr 304 Thermodynamics	3
Egr 305 Transport Processes	3
Egr 306A Unified Laboratory	1
Egr 306B Unified Laboratory	2
Egr 308 Engineering Analysis	3
Egr 370 Seminar in Engineering	1
Egr 417 Engineering Economy	2
	27
echnical Electives	30
Total	132
DETAILED OUTLINE OF TYPICAL * EIGHT-SEMESTER PROGRAM	
OR B.S. IN ENGINEERING	
132 Units)	
Semester 1 Freshman	Uni
General education elective	4
Math 150A Calculus	4
Chem 101A General Chemistry	5
Egr 101 Introduction to Engineering	1
Egr 102 Graphical Analysis	2
Milliam Control of the same of the second of the same	19 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

^{*} NOTE: This program is merely a guide. The student may lighten his academic load each semester to meet his needs.

216 Engineering

Semester 2 Freshman	Units
Math 150B Calculus	4
Physics 225A Fundamental Physics (Mechanics)	3
Physics 226A Fundamental Physics Laboratory	1
Chem 105 Chemistry (for engineers)	3
Egr 205 Digital Computation	3
	3
General education elective	-
	17
Semester 3 Sonhamore	
Semester 3 Sophomore General education electives	6
Math 250 Intermediate Calculus	4
	3
Physics 225B Fundamental Physics (Electricity and Magnetism)	1
Physics 226B Fundamental Physics Laboratory	
Egr 201 Mechanics	3
	17
Mechanics with the Material Materials with the Mate	15 193 16 193
Semester 4 Sophomore	FRT 20
General education electives	6
Math 281 Linear Algebra with Differential Equations	3
Egr 202 Properties of Engineering Materials	3
Physics 225C Fundamental Physics (Modern Physics)	3
Physics 226C Fundamental Physics Laboratory	
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	16
Semester 5 Junior	
Egr 300 Electric Circuits	3
Egr 300L Electric Circuits Laboratory	1
Egr 304 Thermodynamics	3
Egr 305 Transport Processes	3
Egr 306A Unified Laboratory	
	3
	3
Egr 308 Engineering Analysis	3
	17
	control
Semester 6 Junior	
Egr 303 Electronics	3
Egr 303L Electronics Laboratory	2
Egr 306B Unified Laboratory	2
Engineering technical electives	9
The secretary and emperors to be second freely accompanies more of encioned and expenses control	
	16
Semester 7 Senior	
	2
General education electives	3
Egr 417 Engineering Economy	12
Engineering technical electives	
	17
Semester 8 Senior	
General education electives	- 6
Engineering technical electives	9
Engineering technical electives	
Egr 370 Seminar in Engineering	1
	16
T. I. T. St. St. St. St. St. St. St. St. St. St	
Total	132

MASTER OF SCIENCE IN ENGINEERING

Applicants, as well as continuing students, should read carefully the university requirements for master's degree programs, page 71.

Admission Procedure

The procedural steps for admission to and the completion of the Master of Science in Engineering are as follows:

- Apply for admission to the university in unclassified graduate status and declare the objective to be a Master of Science in Engineering. Proof of a degree from an accredited college or university must be supplied. This must be taken care of at the Office of Admissions before the dates established in the university calendar.
- Apply for admission to the School of Engineering Master of Science Program. This must be taken care of at the office of the School of Engineering after admission to the university but before registration.

Prerequisites

Admission to the engineering program requires a 2.5 undergraduate gradepoint average; however, students may be considered with grade deficiencies. Any deficiencies must be made up, and will require six or more units of adviser-approved courses with at least a 3.0 average in addition to those required for the degree. A committee of the engineering faculty will evaluate each student's record for specific course deficiencies in the engineering field. Making suitable allowance for actual engineering experience, the committee will require each student, prior to admission to the program, to make up such deficiencies as the committee determines.

NOTE: A student may be required to take the engineering mathematics review course, 701. This course is open to all who may feel the need for such a refresher course. It is to be taken in addition to those required for the degree.

Admission to Classified Graduate Status

Achievement of this status requires the following:

- 1. Meeting the prerequisites of the previous paragraph.
- Before completing nine units at Cal State Fullerton toward a M.S. degree, a student shall fill out an application card for classified status in the Office of the Dean of Graduate Studies and make an appointment with the adviser at the office of the School of Engineering.
- 3. Preparing, in consultation with his adviser, an approved graduate study plan.

Advancement to Candidacy

Achievement of this status requires the following:

- 1. Having been granted classified status in the Master of Science in Engineering program.
- Having completed 12 units of coursework on his master's degree study plan with a GPA of not less than 3.0, including six units of 500-level courses.
- 3. Filing an advancement to candidacy card in the Office of the Dean of Graduate Studies.

Graduation

Final achievement of the Master of Science in Engineering requires:

- 1. Having been admitted to candidacy status.
- Filing a request for check on completion of requirements during registration and prior to the appropriate deadline.
- 3. Having completed 30 units of approved work with an overall GPA of not less than 3.0.
- 4. Completing satisfactorily a final comprehensive examination.
- 5. Receiving approval of the faculty of the School of Engineering and the dean of graduate studies.

The Program for the Master of Science in Engineering

Qualification for the Master of Science in Engineering requires the following:

- Completion of a minimum of 30 units of approved upper division or graduate-level work including:
 - (a) a minimum of six units of approved upper division or graduate mathematics (certain engineering courses may fulfill this requirement).
- (b) a minimum of 15 units of approved 500-level courses.

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- 2. An overall GPA of 3.0.
- 3. Satisfactory completion of a final comprehensive examination.

A candidate for the Master of Science in Engineering may pursue one of five options currently offered by the School of Engineering:

Electrical engineering

Mechanical and aerospace engineering

Structural engineering and engineering mechanics

Systems engineering

Engineering science

A student is normally required to select a minimum of 15 units within these options. These 15 units may be 400-level and 500-level courses. The 500-level courses are listed below:

Electrical E	ingineering	Units
	,B Microwaves	3,3
	Information Theory and Coding.	3
Egr 504	Linear Network Synthesis	3
Egr 505	Nonlinear Control Systems	
	Advanced Digital Computer Systems	
Egr 506		3
Egr 507	Statistical Communication Theory	3
Egr 513		
Egr 514A		3, 3
Egr 515	Quantum Electronics	3
Egr 521	Solid State Devices and Integrated Circuits	3
Egr 523		3
Egr 554	Hybrid Computation	3
Egr 555	Electromagnetic Field Theory	3
Egr 557	Sampled-Data Systems	3
Egr 559	Analysis and Synthesis of Active Networks	A STATE OF THE PARTY OF THE PAR
Egr 570	Seminar in Electrical Engineering	1–3
Mechanica	ll and Aerospace Engineering	
Egr 508	Advanced Fluid Mechanics	3
Egr 511	Advanced Dynamics	3
Egr 516	Advanced Radiation Heat Transfer	3
Egr 520	Advanced Viscous Fluid Flow	3
Egr 522	Theory of Hydrodynamic Lubrication	3
Egr 524	Advanced Thermodynamics	3
Egr 526	Advanced Convective Heat Transfer	3
Egr 530	Advanced Strength of Materials	3
Egr 573	Aerospace Guidance Systems	3
Egr 575	Kinetic Theory and Statistical Thermodynamics	3
LB. 373	Afficial friedly and statistical friendsynamics	
	Engineering and Engineering Mechanics	
Egr 508	Advanced Fidia Mechanics	3
Egr 509	Theory of Plates and Shells	
Egr 510	Numerical and Approx Meth. in Structural Mechanics	
Egr 511	Advanced Dynamics	3
Egr 519	Advanced Structural Mechanics	3
Egr 530	Advanced Strength of Materials	3
Egr 547	Advanced Dynamics of Structures	3
Egr 549	Theory of Elastic Stability	3
Custom -	gram for the Master of Science in Engineering	
Systems Er	Theory of Linear Systems	3
Egr 581	Theory of Linear Systems	3
Egr 582	Linear Estimation Theory	3
Egr 585	Optimization Techniques in Systems Engineering	
	Operational Analysis Techniques in Systems Engineering	3
Egr 592	Advanced Engineering Analysis	3
(Students r	possessing a BS degree in engineering may elect to take up to nine units in	systems

(Students possessing a B.S. degree in engineering may elect to take up to nine units in systems engineering from approved subjects offered in the School of Business Administration and Economics.)

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Engineering Science

The program in engineering science is to be selected by the student and his adviser and submitted for approval to a committee of the School of Engineering (supplemented, if appropriate, by members of the science and mathematics faculty). The courses selected are to meet a special and specific engineering science objective of the student, such as engineering physics.

In addition to those courses offered in the specific options, the following three courses apply to any option, though they are not necessarily required.

			Unit
Egr	597	Project	1-6
		Thesis	1-6
		Independent Graduate Research	1-3

For further information, consult the School of Engineering.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

ENGINEERING COURSES

100 Introduction to Analysis (4)

Prerequisites: two years of high school algebra, one year of high school geometry. Algebraic, exponential and trigonometric functions and relations. Coordinate geometry and vectors. Real and complex numbers. Designed to prepare students better for a first course in calculus. Does not carry major or related area credit for engineering, mathematics, quantitative methods or science majors. (Same as Physics 100)

101 Introduction to Engineering (1)

An introduction designed to familiarize the student with the nature, responsibilities and opportunities of the profession.

102 Graphical Analysis (2)

Prerequisite or corequisite: Egr 101 or consent of instructor. Graphics as fundamental means of communication in engineering analysis and design; development of spatial visualization; free-hand sketching; descriptive geometry and modern engineering drawing practice. Methods of engineering design and design project. Graphical computation; nomography, representation and analysis of empirical data. (6 hours lecture-laboratory)

110A,B The Man-Made World (3.3)

Prerequisite: must be non-science, non-mathematics, non-engineering major; corequisite: Egr 111A,B (laboratory). The methodology of the technological age. The use of models of the real world to arrive at rational decision making. Control, amplification, and feedback.

111A,B The Man-Made World (1,1)

Corequisite: Egr 110A,B. Laboratory to accompany Egr 110A,B. Simulation of real situations with models.

201 Mechanics (3)

Prerequisites: Math 150B and Physics 225A. An introductory development of the fundamentals of statics with emphasis on application to strength of materials.

202 Properties of Engineering Materials (3)

Prerequisites: Chem 101 and Egr 201. Scientific and engineering principles important in the selection and design of engineering materials, variables influencing material properties, concepts of stress and strain, Hooke's law. Equilibrium of rigid bodies, introduction to metallurgy; material models; dislocations and other defects in solids, strengthening mechanisms, modes of failure.

205 Digital Computation (3)

Corequisite: Math 150A. Introduction to computers and their applications. Elementary FORTRAN programming language, numerical methods for the solution of algebraic and transcendental equations and systems of linear algebraic equations; numerical integration.

207 Pollution and Politics (3)

The scientific/technological, political/legal and philosophical aspects of pollution problems and their possible solutions. A systematic and unified examination of environmental control, with a review of extant technological solutions and the political, economic and human factors that prevent or retard their application.

300 Electric Circuits (3)

Prerequisites: Physics 225B and Math 250; corequisite: Egr 300L. Ohm's and Kirchhoff's laws; mesh-current and nodal analysis methods; basic network theorems; transients in RL and RC circuits; phasors and steady-state sinusoidal circuit analysis; current, voltage and power relationships in electrical systems; polyphase circuits; magnetically coupled circuits; introduction to transformers and electrical machines.

300L Electric Circuits Laboratory (1)

Corequisite: Egr 300. Experimental investigation of simple resistive RL and RC circuits; electrical measurement techniques; study of transformers; performance tests on electrical machines. (3 hours laboratory)

301 Strength of Materials (3)

Prerequisites: Math 250 and Egr 202. States of stress and strain. Analysis and design of structural elements (pressure vessels, beams, torsion bars, springs), fracture criteria, statically indeterminate problems, energy methods, buckling of columns.

302 Dymanics (3)

Prerequisites: Math 250 and Egr 201. Kinematics and kinetics of particles and rigid bodies, Newton's laws, work and energy, impulse and momentum. Solution of problems by using vector approach is emphasized.

303 Electronics (3)

Prerequisites: Physics 225C, Egr 300 and 300L; corequisite: Egr 303L. Characteristics and applications of semiconductor diodes; the p-n junction, field-effect transistors, bipolar-junction transistors, vacuum tubes; applications to electronic devices: rectifiers, clippers, clampers, amplifiers.

303L Electronic Laboratory (2)

Corequisite: Egr 303. Experimental study of semiconductor diodes, transistors, and elementary electronic circuits. (1 hour lecture, 3 hours laboratory)

304 Thermodynamics (3)

Prerequisites: Chem 105 and Egr 201. The study of energy and its transformation which encompasses heat and work and the conservation of energy, the concept of entropy and its relation to other system properties. The ideas are conveyed through the detailed study of ideal gases, heat engines and refrigeration (both ideal and actual).

305 Transport Processes (3)

Prerequisites: Math 250, Egr 201 and Physics 225C. Fluid statics, one-dimensional steady flow analysis, analysis of steady one-dimensional heat conduction. Principles of similitude and dimensional analysis. Steady state heat transfer by radiation, free and forced convection.

306A Unified Laboratory (1)

Prerequisite: Egr 202 or equivalent; corequisite: Egr 305. Observations and measurements in the laboratory as an introduction to the experimental method. Static and dynamic measurements are made on simple engineering systems (beams, columns, pendulum, gyroscopes) using mechanical and electrical transducers. Report writing is emphasized. (3 hours laboratory)

306B Unified Laboratory (2)

Prerequisites: Egr 305 and 306A. A continuation of Egr 306A. More complex engineering systems are considered with fluid flow and thermal measurements emphasized in the laboratory. Lecture deals with instrumentation theories and the design of engineering experiments. The students' ability to express theoretical concepts and experimental efforts via the technical report is further enhanced. (1 hour lecture, 3 hours laboratory)

308 Engineering Analysis (3)

Prerequisite: Math 281 or consent of instructor. Fourier series, Fourier transforms, Laplace transforms, complex analysis, vector analysis; engineering applications.

309 Networks and Transmission Lines (3)

Prerequisites: Egr 205, 300, 300L and 308. Continuation of Egr 300. Performance of RLC circuits; complex frequency and the s-plane; frequency response and resonance; network topology; two-port network characterization; transmission line theory; classical filter theory.

310 Electronic Circuits (3)

Prerequisites: Egr 205, 303, 303L and 308. Continuation of 303, multistage amplifiers and feedback, frequency characteristics of amplifiers, tuned amplifiers, frequency characteristics and stability of feedback amplifiers, oscillators and power amplifiers.

311 Field Theory (3)

Prerequisites: Physics 225B and Math 281. Review of fundamental concepts underlying the formulation of static and quasi-static electric and magnetic fields. Effect of magnetic, dielectric, and conducting materials. Capacitance, inductance and resistance. Boundary value problems. Maxwell's equations and development of the wave equation.

312 Linear System Analysis (3)

Prerequisites: Égr 300, 302 and 308. Engineering analogies (models); system concepts (block diagrams; signal graphs; transient and frequency response; Bode plots; stability; transfer functions; feedback; and Nyquist polar diagrams); non-dimensionalization of functions and analysis of distributed parameter systems—with engineering applications; introduction to probability.

313 Introduction to Electromechanics (3)

Prerequisites: Egr 300 and 308. Electromagnetic fields and circuits; transformers, saturation effects. Simple electro-mechanical systems. Circuit models, terminal characteristics, and applications of DC and AC machines.

316 Applied Thermodynamics (3)

Prerequisites: Egr 205 and 304. Continuation of Egr 304, additional coverage of power and refrigeration cycles. Maxwell's relations, mixtures of real and ideal fluids, chemical reactions (emphasis on combustion), phase and chemical equilibrium.

317 Introduction to Computer Science (3)

Prerequisites: Egr 205 or QM 264 or QM 265 or equivalent. Overview of computer systems, computer applications, ALGOL programming language, internal information structures, binary arithmetic, code conversion, computer organization, algorithms.

320 Metallurgy (3)

Prerequisite: Egr 202. Structure and properties of metals and alloys, influences of mechanical and thermal treatments, plastic deformation, work hardening and recrystallization, grain growth, alloy diagrams, solution hardening, diffusion hardening, precipitation hardening, the iron-carbon system, composite materials, brittle, creep and fatigue failures.

320L Engineering Metallurgy Laboratory (1) (Formerly 462L)

Corequisite: Egr 320. Study of microstructure of materials, cold work and heat treatment, use of microscope and sample preparation, fatigue testing and failure analysis. (3 hours laboratory)

324 Soil Mechanics and Foundations (3)

Prerequisites: Egr 201 and 301. Soil properties and soil action as related to problems encountered in engineering structures; compression shear strength, stability and lateral earth pressures.

324L Soil Mechanics and Foundations Laboratory (1)

Corequisite: Egr 324. Laboratory exercises supporting Egr 324. (3 hour laboratory)

326 Structural Design (3)

Corequisite: Egr 301. Elements of the design of steel, timber members. Connection details. Design of complete structures for both vertical and lateral loads.

331 Mechanical Behavior of Materials (3)

Prerequisite: Egr 202. Plastic deformation mechanisms, treatment of plastic deformation, fatigue, creep and fracture. Case studies.

332 Manufacturing Processes (3)

Prerequisite: Egr 202. Study of industrial manufacturing processes. Principles of conventional and nonconventional material removal, forming and joining processes and equipment. Nondestructive and other testing methods.

333 Introduction to Aerodynamics (3)

Prerequisites: Egr 205 and 305. Kinematics of fluid flow, classification of flow fields, Euler and Navier-Stokes equations, the Bernoulli equation, flow measurement, wind tunnel testing laminar and turbulent flow through ducts of varying cross-section-aerodynamic forces, effect of Reynolds number and Mach number.

335 Mechanical Analysis (3)

Prerequisites: Egr 202, 205, and 302; corequisite: Egr 335L. Kinematics and dynamics of mechanisms, analysis of linkages, gears, cams, etc., using analytical and graphical techniques, balancing.

335L Mechanical Analysis Laboratory (1)

Corequisite: Egr 335. Analytical and graphical techniques will be used in solving engineering type problems in mechanical design. (3 hours laboratory)

365 Computers in the Life Sciences (3)

Prerequisite: senior standing in the life sciences; cannot be taken for credit toward the B.S. in Engineering. Introduction to electronic computers and FORTRAN programming. Characteristics and functions of analog, digital and hybrid computers and their application to problems in the life sciences. Representative problems will be solved on analog and digital computers.

370 Seminar in Engineering (1)

Prerequisite: senior standing in engineering. The engineering profession, professional ethics, and related topics.

371 Technical Seminar in Engineering (1)

Prerequisite: senior standing in engineering. Recent developments in engineering. Oral and written reports.

375 Electrical Engineering Laboratory (2)

Prerequisites: Egr 309 and 311; corequisites: Egr 310 and 313. Experimental studies of discrete and integrated electronic circuits and electrical machines; bridge measurements of circuit parameters; slotted-line measurements; simulation studies using analog computers. (6 hours laboratory)

376A Mechanical Engineering Laboratory (2)

Prerequisites: Egr 302, 306B and 308. Experimental studies of dynamic systems, error analysis, simulation and solution of dynamic problems on the analog computer. (6 hours laboratory)

376B Mechanical Engineering Laboratory (2)

Prerequisites: Egr 306B and 316. A laboratory investigation of mass transfer, heat transfer, and thermodynamic phenomena and their interaction with mechanical systems. (6 hours laboratory)

377 Structural Engineering Laboratory (2)

Prerequisite: Egr 301. Experimental studies in structural mechanics; stress and deformation studies of concrete and steel structures. Dynamic response of structures. (6 hours laboratory)

385 Electrical Engineering Design Projects Laboratory (3) (Formerly 360)

Prerequisite: Egr 375, within 20 units of graduation. The application of fundamental engineering principles to typical design problems in the field of electrical engineering. (1 hour lecture, 6 hours laboratory)

402 Digital Logic (3)

Prerequisite: Egr 317 or QM 364. Introduction to digital computers, Boolean algebra, number representations. Analysis, simplification and synthesis of combinational and sequential networks.

402L Digital Logic Laboratory (1)

Corequisite: Egr 402. Experimental study of digital logic circuits; decoders and encoders, counters, serial and parallel adders, control circuits. (3 hours laboratory)

403 Computer Methods in Numerical Analysis (3)

Prerequisites: Egr 205 and 308 or equivalent. The use of numerical methods and digital computers in the solution of algebraic, transcendental, simultaneous, ordinary and partial differential equations.

405 Digital Computer Design and Organization (3)

Prerequisite: Egr 402. Digital computer organization; arithmetic operations: addition, subtraction, multiplication, division; control unit: instruction format, types, acquisition, execution; memory unit: organization, types, hierarchies; input-output unit: methods, data organization.

406 Dynamic Response (3)

Prerequisites: Egr 205, 302 and 308. Natural and forced motions of linear lumped and distributed parameter systems, vibration analysis of mechanical systems and vibration control.

406L Dynamic Response Laboratory (1)

Prerequisite: Egr 376A; corequisites: Egr 376B and 406. Steady and transient response of mechanical and thermal systems, linear and nonlinear systems, analog simulation and computation. (3 hours laboratory)

407 Transfer and Rate Processes (3)

Prerequisites: Egr 205, 305 and 308. Analysis of two- and three-dimensional steady and unsteady heat conduction, heat exchangers, forced and free convection for interior and exterior surfaces, heat transfer with a change in phase.

408 Reinforced Concrete Design (3)

Prerequisites: Egr 301 and 326. Theory of reinforced concrete. Design of reinforced concrete slabs, beams, columns, buildings and bridges. Introduction to prestressed concrete, ultimate strength theory.

410 Space Dynamics (3)

Prerequisite: Egr 302. Gravitational field, impulsive transfer and rendezvous between two-body orbits; dynamics of two or more interconnected rigid bodies; spin stability, orientation by gravity-gradient and solar-radiation pressure, damping of spacecraft's rotational motion.

411 Dynamics of Structures (3)

Prerequisites: Egr 301 and 308, or equivalent. Free and forced vibrations of discrete systems, response of structures to impulse loads and earthquakes. Matrix formulation and normal coordinates analysis. Vibration of beams.

412 Theory of Elasticity (3)

Prerequisites: Egr 301 and 308. The differential equations which govern the behavior of an elastic solid, and their applications to a variety of problems in two and three dimensions using various coordinate systems.

414 Matrix Analysis of Structures (3)

Prerequisites: Egr 205, 301 and 308 or equivalent. Introduction to matrix algebra; use of matrix formulation in the analysis of structures; flexibility and stiffness methods; applications using the matrix method on a digital computer.

415 Gas Dynamics (3)

Prerequisites: Egr 304 and 305. Thermodynamics of compressible fluid flow, normal and oblique shocks, flow through converging-diverging passages, flow in ducts with heating or cooling, interaction of shocks and expansion waves.

416 Feedback Control Systems (3)

Prerequisite: Egr 312. Feedback system characteristics; state-space and frequency domain analysis, design using root-locus and Nyquist plots; introduction to stability theory; application of basic compensation methods.

416L Control Systems Laboratory (2)

Corequisite: Egr 416. Experimental study of simulated and actual control system components; determination of transfer characteristics; compensation methods. (1 hour lecture, 3 hours laboratory)

417 Engineering Economy (2)

Prerequisite: senior standing in engineering. Development, evaluation and presentation of alternatives for engineering systems and projects using principles of engineering economy and cost benefit analysis. Examination of the relationships between the engineer and other members of the enterprise environment. Examination of the engineer's ethics, value systems and nonquantifiable inputs from the enterprise environment.

418 Foundation Design (3)

Prerequisites: Egr 301, 326 and 408. Design loads for foundation structures. Design of footings, retaining walls, piled foundations, bulkheads, other waterfront structures.

419 Electromagnetic Field Theory (3)

Prerequisites: Egr 205 and 311. Continuation of Egr 311 to provide a greater depth and extension of coverage, energy in fields, Maxwell's equations, boundary value problems, propagation, guided waves.

421 Mechanical Design (2)

Prerequisites: Egr 331 (or 301) and 335; corequisite: Egr 421L. The application of the principles learned in mechanics of rigid and deformable bodies to the proportioning of machine elements to engineering problems.

421L Mechanical Design Laboratory (1)

Corequisite: Egr 421. Analysis, formulation and solution of engineering type problems encountered in mechanical design. (3 hours laboratory)

423 Engineering Probability and Statistics (3)

Prerequisite: Egr 308, or consent of instructor. Engineering problems involving discrete and continuous random variables, probability distribution and density functions, introduction to stochastic processes, correlation functions and power spectral densities.

424 Computer Simulation of Continuous Systems (3)

Prerequisites: Egr 205 and 312. Analog computer methods, digital differential analyzers, digital simulation languages, simulation of engineering systems.

425A,B Environmental Engineering (3,3)

Prerequisite: senior standing in engineering or equivalent. Fundamentals of environmental engineering. Planning, analysis and design of systems for water and air pollution control; domestic and industrial waste treatment and disposal.

426 Ocean and Coastal Engineering (3)

Prerequisite: senior standing in engineering or equivalent. Characteristics of ocean basis, marine soils. Fundamentals of ocean waves, currents, tides, tsunamis and storm surges. Effect of waves on structures, floating platforms, offshore towers. Engineering problems of beach erosion, harbor design and coastal problems.

427 Structural Analysis (3)

Prerequisite: Egr 301. The analysis of determinate and indeterminate structures, such as continuous beams, frames, grids, arches, trusses, curved beams, using slope and deflection method, moment distribution method, elastic energy approach. Temperature effect, foundation settlement, secondary stresses. Nonprismatic members.

428 Engineering Hydraulics (3)

Prerequisite: Egr 305. Hydraulic forces, theory and analysis of open channel flow and pipe flow. Critical flow, uniform and non-uniform flow. Design of channels, spillways, gravity pipelines. Hydraulic analogies.

428L Engineering Hydraulics Laboratory (1)

Corequisite: Egr 428. Laboratory experiments which illustrate the principles of engineering hydraulics. (3 hours laboratory)

429 Transportation and Traffic Engineering (3)

Prerequisite: senior standing in engineering or equivalent. Introduction to transportation systems. Engineering aspects of air, highways, rails, waterways and other modes of transportation. Planning, design and regulation of highway traffic. Elements of highway and freeway layout. Planning and design of rapid transit systems. Transportation facilities. Application of computers.

430 Design of Steel Structures (3)

Prerequisite: Egr 301. Design of steel structures: design of built-up girders, moment connections, light gage metal members. Torsion and unsymmetrical bending of beams, buckling of beams and columns. Design for wind and earthquake forces. The use of the latest AISC design code.

431 Experimental Stress and Model Analysis (3)

Prerequisites: Egr 301 and 306A or equivalent. Lectures and laboratory in the principal experimental methods of stress and model analysis. Principles of similitude, mechanical and electrical strain gaging, analogy methods, photoelasticity, photostress and Moire methods. (2 hours lecture, 3 hours laboratory)

434 Direct Energy Conversion (3)

Prerequisites: Egr 300, 304 and 305. The direct conversion of heat to electrical energy, thermoelectric, thermionic and magnetohydrodynamic devices, solar and fuel cells.

437 Propulsion (3)

Prerequisites: Egr 305 and 316. Theoretical analysis of flight vehicle propulsion systems. Includes review of pertinent thermodynamic, fluid mechanic, and dynamic fundamentals; air breathing engines (ramjet, turbojet, turboprop); chemical rockets.

443 Electronic Communication Systems (3)

Prerequisite: Egr 310. Principles of amplitude, angular and pulse modulation, study of representative communication systems, consideration of the effects of noise on system performance.

445 Pulse and Digital Circuits (3)

Prerequisites: Egr 303 and 308. Analysis and design of active and passive circuits for the generation and processing of pulse, digital and switching waveforms.

445L Pulse and Digital Circuits Laboratory (2)

Prerequisite: Egr 445 (may be taken concurrently). Laboratory study of logic circuits, switching circuits, gates, timing circuits and special waveform generating circuits. (1 hour lecture, 3 hours laboratory)

451 Thermal Environmental Conditioning and Control (3)

Prerequisites: Egr 304 and 305. A rigorous and thorough approach to the fundamentals of controlling the thermal environment within enclosed spaces. Theory and analysis of fundamental thermodynamics are emphasized providing a broad coverage of topics relating to thermal environmental engineering.

455A Solid State Electronics (3

Prerequisites: Egr 303 and 311. Quantum mechanical principles, atomic structure, crystal structure, crystal defect and diffusion, lattice vibration and phonons, energy band theory, charge transport phenomena, free electron theory of metal, intrinsic and extrinsic semiconductors, p-n junction theory, transistor theory.

455B Solid State Electronics (3)

Prerequisite: Egr 455A. Superconductivity, dielectric theory and materials, ferroelectrics, diamagnetism and paramagnetism, ferromagnetism and antiferromagnetism, ferrimagnetism and ferrites.

458 Computer Structure and Programming (3)

Prerequisite: Egr 317. Influence of computer structure on language design; machine language, nonnumeric programming, stacks, searching, sorting, computer structure simulation.

460 Failure of Engineering Materials (3)

Prerequisite: Egr 202. Imperfections in solids; fracture initiation and crack propagation; dislocations; yield point phenomenon; fatigue; creep; ultrasonic effects; radiation damage; stress corrosion; hydrogen embrittlement; composite materials.

468 Engineering Construction (3)

Prerequisite: senior standing in civil engineering. Engineering construction planning, equipment and methods. Construction estimates, costs and contracts. Construction management. Introduction to critical path method.

473 Introduction to Nuclear Engineering (3)

Prerequisite: senior or graduate standing in engineering. A review of atomic physics and nuclear fission followed by elementary reactor theory and reactor design considerations.

475 Engineering Acoustics (3)

Prerequisite: Physics 225C. Basic phenomena on the propagation, absorption and generation of acoustic waves, specification and measurement of noise, effects of noise on speech and behavior, legal aspects of industrial and building noise, principles and applications of noise control.

483 Computer Methods in Engineering (3)

Prerequisites: Egr 403 and 423. The use of digital computers to solve engineering problems in the area of data analysis, state space and random processes. Problem oriented computer languages and graphic terminals and their applications.

489 Microwave Engineering (3)

Prerequisite: Egr 375; corequisite: Egr 489L or permission of instructor. Propagation of electromagnetic waves. Guided waves. Waveguides. Resonant cavities. Waveguide and cavity coupling techniques. Principles of microwave amplifiers and oscillators. Klystrons, traveling wave tubes, solid-state microwave devices, masers and lasers. Radiation patterns and impedance characteristics of simple antenna elements.

489L Microwave Engineering Laboratory (1)

Corequisite: Egr 489. Experimental study of microwave networks and components. Microwave detectors, determination of load impedance, tuners, phase shifters, couplers, filters, Q measurements, radiation patterns. Investigation of representative active devices. (3 hours laboratory)

491 Analytical Methods in Engineering (3)

Prerequisite: Egr 308 or consent of instructor. Differential equations with constant and variable coefficients; orthogonal functions; conformal mapping; potential theory; engineering applications.

497 Senior Projects (1-3)

Prerequisite: consent of adviser and instructor. Directed independent design project.

499 Independent Study (1-3)

Prerequisite: approval of study plan by adviser. Study of specialized topics in engineering selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

501A,B Microwaves (3,3)

Prerequisites: Egr 403, 419, 489 and 491. Review of concepts underlying Maxwell's equations, propagation through passive, active, linear, nonlinear, isotropic, anisotropic, homogeneous and inhomogeneous media with and without wave guiding structures. Orthogonal modes in waveguide and cavity resonators, microwave circuit theory, microwave devices. Generation and transmission of microwave energy.

503 Informaton Theory and Coding (3)

Prerequisite: Egr 423. Information measures, probabilistic studies of the transmission and encoding of information, Shannon's fundamental theorems, coding for noisy channels.

504 Linear Network Synthesis (3)

Prerequisites: Egr 309 and 403. Foundations of network theory; synthesis procedures for realizing driving-point and transfer-functions; approximation methods in filter design; computer assisted analysis and design.

505 Nonlinear Control Systems (3)

Prerequisite: Egr 416. Analysis of nonlinear control systems using linearization and perturbation techniques; describing function and phase plane techniques; stability theory.

506 Advanced Digital Computer Systems (3)

Prerequisite: Egr 405. Computer system structure, mini-computers, medium and large-scale computer systems, list processors, time-sharing and multi-processor computer systems.

507 Statistical Communication Theory (3)

Prerequisites: Egr 423 and 443. Transmission of random signals through linear systems, noise considerations, detection theory, optimum receivers.

508 Advanced Fluid Mechanics (3)

Prerequisites: Egr 205, 308 and 333. Two and three dimensional inviscid steady flow analysis through the use of transformation and numerical techniques.

509 Theory of Plates and Shells (3)

Prerequisites: Egr 301 and 491 or equivalent. Theory of plates bent by transverse loads; applications to circular, rectangular, other shapes. General theory of thin shells; shells of revolution; shells of translation.

510 Numerical and Approximate Methods in Structural Mechanics (3)

Prerequisites: Egr 205, 308 and 414 or equivalent. Use of finite-difference and finite-element methods for solution of problems in structural engineering. Coding on a digital computer and numerical solutions using direct and iterative techniques.

511 Advanced Dynamics (3)

Prerequisite: Egr 312. The dynamics of particles and rigid bodies by the use of the formulations of the laws of mechanics due to Newton, Euler, Lagrange and Hamilton; applications.

513 Optimal Control Systems (3)

Prerequisite: Egr 581. Formulation of optimal control problems; the calculus of variations; the maximum principle; studies of minimum-time and minimum-energy problems; dynamic programming.

514A,B Software Systems Design (3,3)

Prerequisites: Egr 402 and 458 or equivalent. A brief review of programming languages (syntax and semantics); organization of system components for assembly, compilation and interpretation; organization and design of operating systems for batch processing, multiprocessing, and time sharing; memory allocation in a dynamic environment.

515 Quantum Electronics (3)

Prerequisites: Egr 403, 419, 489 and 491. Electroluminescence, interaction of radiation and matter, gas lasers, solid state laser, injection lasers, holography, electro-optic effects, non-linear optics, laser systems, noise and applications.

516 Advanced Radiation Heat Transfer (3)

Prerequisite: Egr 407. A study of advanced principles in radiation heat transfer including the study of the geometric factor, black and real systems, and energy transfer in absorbing and emitting media.

519 Advanced Structural Mechanics (3)

Prerequisites: Egr 301, 427 and 491 or equivalent. Use of potential energy principle in structural analysis; direct and indirect method of calculus of variations; nonlinear problems of large deformation; beam on elastic foundations; special topics in structural mechanics.

520 Advanced Viscous Fluid Flow (3)

Prerequisites: Egr 333 and 407. A study of the fundamental equation of motion and continuity applied to viscous fluids (Navier-Stokes equations). The development of the boundary layer equations and the study of viscous drag, investigation of boundary layer control theory to reduce viscous drag.

521 Antenna Theory (3)

Prerequisites: Egr 403, 419, 489 and 491. Polarization; radiation patterns; impedance characteristics; plane, cylindrical and spherical waves, electric and magnetic dipoles; wire antennas, traveling wave antennas; broad band antennas; analysis and synthesis of arrays; parabolas; lenses; radomes; feed systems; scattering; multiple beam antennas; synthetic antennas; phased arrays; diffraction; solution by superposition, orthogonal expansion, integral equation and variational techniques; antenna measurements.

522 Theory of Hydrodynamic Lubrication (3)

Prerequisites: Egr 333 and 407. The analysis and design of compressible and incompressible journal and thrust bearings.

523 Solid State Devices and Integrated Circuits (3)

Prerequisite: Egr 455A. Solid state fabrication technologies: diffusion, epitaxy, metallization, photolithography. Solid state device design principles: diodes, transistors, FETS, linear integrated circuits, digital integrated circuits.

524 Advanced Thermodynamics (3)

Prerequisite: Egr 316. Equilibrium and stability criteria, chemical thermodynamics, multiple reaction systems, ionization, equilibrium composition.

526 Advanced Convective Heat Transfer (3)

Prerequisite: Egr 407. A study of advanced principles in convective heat transfer including the study of heat transfer in external and internal flow fields for both laminar and turbulent fluid flow.

530 Advanced Strength of Materials (3)

Prerequisites: Egr 301 (or 421) and 308. Energy methods, principle of virtual work, applications to structures, cylinders, shrink fits, curved beams, elastic and inelastic buckling of columns.

547 Advanced Dynamics of Structures (3)

Prerequisites: Egr 411 and 491 or equivalent. Vibration of beams, plates and shells. Dynamic response of continuous systems in general. Introduction to random vibrations. Topics in nonlinear vibrations.

549 Theory of Elastic Stability (3)

Prerequisites: Egr 301, 530 and 491 or equivalent. Critical loads of columns, beam columns, plates, shells; lateral stability of beams, torsional buckling of open sections, stability of the frames; dynamic stability of elastic systems.

554 Hybrid Computation (3)

Prerequisites: Egr 403 and 424. Hybrid analog-digital computer systems, A/D and D/A converters and other linkage equipment, application of hybrid computers to solving partial differential equations and modeling, error analysis.

555 Electromagnetic Field Theory (3)

Prerequisites: Egr 419 and 491. Relativistic electrodynamics, retarded potentials, radiation from arbitrarily moving charges, Cerenkov radiation, cyclotron radiation, propagation in dispersive media, space charge dynamics, advanced boundary value problems.

557 Sampled-Data Systems (3)

Prerequisite: Egr 416. Analysis and design of sampled-data and digital control systems, using Z-transforms and state-variable methods; consideration of stability.

559 Analysis and Synthesis of Active Networks (3)

Prerequisites: Egr 310 and 504. Analysis of active networks: controlled sources, negative-immittance converters, gyrators, and infinite-gain devices; parameter sensitivity; realizability conditions; synthesis of active RC networks.

570 Seminar in Electrical Engineering (1-3)

Prerequisites: graduate standing and 12 units of graduate coursework. Special topics and current developments of primary interest in the field of electrical engineering. This course, with different content, may be retaken for additional credit.

573 Aerospace Guidance Systems (3)

Prerequisites: Egr 410 and 423. Guidance equations for powered and impulsive orbit injection and mid-course correction; analysis of navigation fix; estimation from measurements and error analysis; recursive navigation theory.

575 Kinetic Theory and Statistical Thermodynamics (3)

Prerequisite: Egr 316. Statistical study of ideal gases, kinetic theory, statistical mechanics, electron gas, thermionic emission, photon and phonon gases.

581 Theory of Linear Systems (3)

Prerequisites: Egr 403 and 416. Principles of state space domain analysis, linear spaces, stability of systems; numerical methods for linear systems analysis and design.

582 Linear Estimation Theory (3)

Prerequisites: Egr 423 and 581. Mathematical models of continuous-time and discrete-time stochastic processes; the Gauss-Markov theorem; the Kalman filter, smoothing and suboptimal filtering, computational studies.

585 Optimization Techniques in Systems Engineering (3)

Prerequisite: Egr 403. Calculus of variations, optimization of functions of several variables, Lagrange multipliers, gradient techniques, linear programming, and the simplex method, non-linear and dynamic programming.

587 Operational Analysis Techniques in Systems Engineering (3)

Prerequisites: Egr 423 and 585. Operational research models; applications of probability theory to reliability, quality control, waiting line theory, Markov chains; Monte Carlo methods.

592 Advanced Engineering Analysis (3)

Prerequisites: Egr 403 and 491 or equivalent. Partial differential equations in engineering; numerical techniques; integral equations; engineering applications.

597 Graduate Projects (1-6)

Prerequisite: consent of adviser.

598 Thesis (1-6)

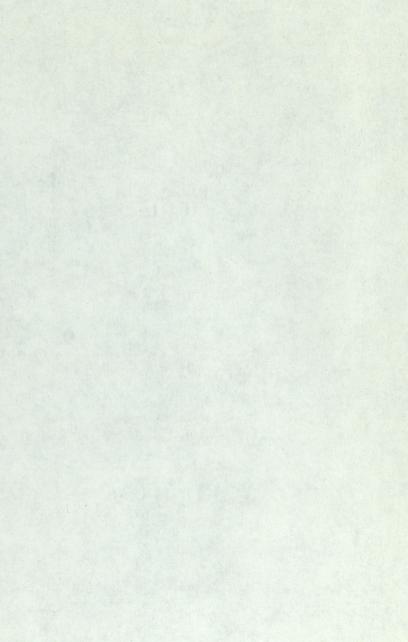
Prerequisite: consent of adviser.

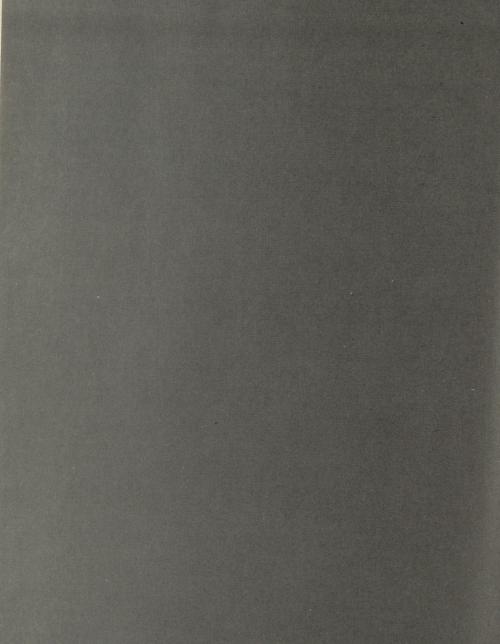
599 Independent Graduate Research (1–3)

Prerequisite: classified graduate status. Open to graduate students only by consent of Engineering School Graduate Committee. May be repeated for credit only upon approval of this committee.

701 Review of Applied Mathematics for Engineers (3)

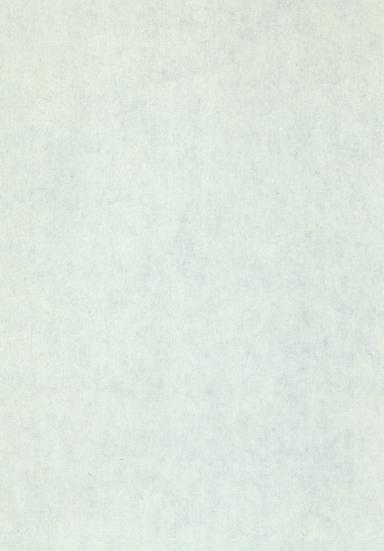
Review of elementary calculus, ordinary differential equations, Laplace transforms, vector analysis, Fourier series, matrices, and partial differential equations.





HEALTH EDUCATION, PHYSICAL EDUCATION, RECREATION AND ATHLETICS

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Units

DIVISION OF HEALTH EDUCATION, PHYSICAL EDUCATION, RECREATION AND ATHLETICS

Chairman: Paul Pastor

ATHI FTICS

Neale Stoner, Director

FACULTY

David Gibbs, John Godden, Jerry Lloyd, Donald Matson, George Radovich, V. Richard Wolfe, Peter Yoder

PHYSICAL EDUCATION

Eula Sovall, Chairman

FACULTY

Paul Fardy, M. William Fulton, Eric Hanauer, Elmer Johnson, Araminta Little, Bille Moore, Alexander Omaley, Virginia Scheel, Carol Weinmann, Ronald Witchey, Michael Yessis

BACHELOR OF SCIENCE IN PHYSICAL EDUCATION

The Department of Physical Education offers the Bachelor of Science in Physical Education for students preparing to teach, for those preparing to pursue graduate work in physical education and for those preparing for careers in business, industry and government service.

The major consists of 40 units in physical education. Electives are to be approved by the student's departmental adviser. Requirements for the major, including proficiency requirements, prerequisite and lower division courses, are indicated below.

MAJOR IN PHYSICAL EDUCATION *

It is strongly recommended that students take one or more of the following courses to fulfill their general education requirements:

Chemistry 100 Introductory Chemistry (4)

Physics 211A Elementary Physics (4)

Physical Science 201 Modern Physical Science (4)

Biological Science 201 Elements of Biology (5)

Biological Science 361 Mammalian Anatomy and Physiology

Lower Division (maximum of 12 units)

PE 201 Introduction to Physical Education	Units 3
A minimum of six classes elected from the following	6†
Upper Division (minimum of 28 units)	

Theoretical and practical bases: Minimum of two courses from the following PF 324 Theory and Principles of Human Motor Learning (3)

PE 360 Movement Anatomy (3)

PE 361

Biomechanics of Sport PE 370 Physiology of Exercise

Adapted and Corrective Activities

^{*} Students planning to seek a teaching credential should obtain a copy of the "Major in Physical Education with Teaching Emphasis" from the department office. Final decisions on these requirements were not made in time for inclusion in this catalog.

[†] Three units for students who transfer from institutions granting one-half unit credit for physical education activity classes.

Contemporary Understandings:
Minimum of two courses from the following6
PE 350 History of Physical Education (3)
PE 356 Cultural Perspectives of Physical Activity (3)
PE 436 Sport Psychology (3)
PE 437 Sport Sociology (3)
Analysis:
Three courses as follows
One course from the PE 340 series, Analysis of Individual Sports (2)
One course from the PE 341 series, Analysis of Dual Sports (2) 2
One course from the following
PE 340 Analysis of Individual Sports (2)
PE 341 Analysis of Dual Sports (2)
PE 342 Analysis of Team Sports (2)
PE 482 Ethnic Dance (3)
PE 484 Contemporary Dance Technique (3)
PE 486 Choreography (3)
Upper division physical education courses to complete the required 40 units for the major
Total

Proficiency Requirements for Major and Minor Students

Activity courses should be taken to meet the prerequisite requirements for any analysis series courses the student plans to take. Proficiency screening tests are administered in the analysis classes at the beginning of the semester.

MINOR IN PHYSICAL EDUCATION

A physical education minor shall consist of 20 units of coursework in physical education with a minimum of 12 upper division units which must include work from each of the following areas: Theoretical and Practical Bases, Contemporary Understandings and Analysis series.

CREDENTIAL REQUIREMENTS FOR PHYSICAL EDUCATION MAJORS

IMPORTANT NOTE: Due to changes in the legal requirements for teaching credentials mandated by the California State Legislature, the programs and requirements listed below apply only to those students who were admitted to teacher education prior to November 2, 1971. It is possible that other students interested in obtaining a teaching credential at this institution will be subject to different requirements and programs which will be published in a supplementary bulletin.

The university program for meeting the requirements for the standard teaching credential with a specialization in secondary school teaching is as follows:

- 1. A bachelor's degree from an approved institution.
- 2. A fifth year of university or university education taken at the upper division or graduate level, at least six semester hours of which must be taken at the graduate level.
- 3. Forty-five semester hours of coursework selected from *four* of the following six areas: humanities (except foreign languages); social sciences; natural sciences; mathematics; * fine arts; and foreign languages. The applicant must have at least a year of English and shall demonstrate competence in composition by passing a course in advanced composition or by passing an examination.† (The general education requirement for the bachelor's degree will satisfy this requirement if courses are selected properly. Not more than six hours of general education coursework shall apply toward the major or the minor for the credential.)
- 4. A major and a minor in subject matter areas commonly taught in the public secondary school. The following minors are available for physical education majors: art, biology, chemistry, communications with a journalism emphasis, economics, English, French, geography, German, history, mathematics, music, physics, political science, Spanish, speech communication and theatre arts.

^{*} Mathematics requiring as a prerequisite an understanding and knowledge of high school algebra and geometry.

[†] The English requirement including composition is met at this university by English 100 or 103, English 110, 111 or 112 (or equivalents) and English 301.

Credential requirements for preservice professional education are met through the following program in professional education:

	Units
Educ 340 Principles and Curricula of Secondary Education	3
Educ 411 Psychological Foundations of Education	3
Educ 496 Practicum (concurrent enrollment with Educ 411)	1
Educ 401 Social Foundations of Education	3
PE 442 Teaching Physical Education in Secondary Schools ‡	2
Educ 449 Fieldwork in Methods of Teaching in Secondary Schools (concurrent enrollment with PE 442)	11
749 Student Teaching in Physical Education in the Secondary School and Seminar ‡	6

Admission to Teacher Education

The application for admission to teacher education should be completed by the end of the semester in which Educ 340 is completed. Information about admission to teacher education is available at the Credentials Office. The instructions for admission indicate all the procedures to be followed. Each applicant should take the test batteries at the earliest date listed in the admission to teacher education materials.

Admission to Student Teaching

Admission to teacher education does not include admission to student teaching. Information about admission to student teaching is available at the Department of Teacher Education. Applications for student teaching for fall semester must be submitted by March 1 and for spring semester by October 15.

Study Limits of Student Teachers

Students enrolled in PE 749 will be limited to two additional courses for that semester. It is expected that students will not carry out-of-university work responsibilities during the semester of the student teaching assignment.

GRADUATE PROGRAMS

MASTER OF SCIENCE IN PHYSICAL EDUCATION

The program of studies leading to this degree is designed to prepare carefully selected individuals as master teachers of physical education by providing the technical knowledge and scholarship necessary to interpret to others through modern methods of education: (1) the basic subject matter of physical education; (2) the conduct and application of experimental research pertinent to physical education; (3) the ability to evaluate critically the basic issues affecting physical education; and (4) the application of concepts from related fields having significance for physical education. The program is also designed to prepare teachers of physical education at the university level as well as to provide the background for continued study in a doctoral program in physical education.

Prerequisites

Prerequisites to the program include:

- (1) completion of 24 approved upper division units in physical education;
- (2) a grade-point average of 3.0 or better, for all upper division work taken in physical education and a 2.5 GPA for all previous college and/or university work. (Contingency provisions: grade-point deficiencies in individual courses in physical education may be met by taking 6–12 hours of approved courses at Cal State Fullerton, and earning a 3.0 GPA in these courses. Such courses, while counted toward the prerequisites for the master of science program, may not be used to fulfill the program requirements.)
- (3) completion of the Aptitude Test of the Graduate Record Examination.

Program of Study

The degree study plan normally consists of 30 units of graduate coursework with a GPA of 3.0 or better. Coursework shall include 18 units of 500-level courses of which 8 to 10 units shall be in the core studies. Further work includes 12–17 units in physical education electives with eight of these units concentrated in one special area. Six units of work must be in disciplines other than physical

[‡] See course description for prerequisites.

education. A thesis and an oral examination at the conclusion of the program are required; a written examination may also be required.

1. Core Studies (8-10 units)

PE 510 Research Design in HEPER (3)

PE 598 Thesis (4)

or

PE 597 Project (2)

At least one of the following:

PE 515 Seminar in Physical Education (3)

PE 516 Philosophical Bases of Physical Education (3)

PE 520 International Physical Education (3)

2. Electives (12–17 units) in physical education, including a minimum of eight units in one of the following concentrations:

(PE 596, Advanced Studies in Physical Education, 1–3 units, may be applied to core, concentration or elective area as approved. PE 599, Independent Research, 1–3 units, may be applied to any of the concentrations which follow.)

A. Administrative:

PE 532 Curriculum Design in Physical Education (3)

PE 530 Administration and Supervision of HEPER (3)

PE 533 Facilities Development and Planning (2)

PE 545 Seminar in Evaluation in Physical Education (3)

B. Scientific:

PE 552 Human Bio-Kinetics (3)

PE 555 Scientific Bases of Training (3)

PE 551 Seminar: Advanced Study in Physiology of Exercise (3)

PE 545 Seminar in Evaluation in Physical Education (3)

PE 540 Seminar in Problems in Adapted Physical Education (3)

C. Scientific Sports:

Must include two courses from the scientific area above.

PE 560 Advanced Study in Performance:

(a) Tennis-Badminton (2)

(b) Gymnastics (2)

(c) Track and Field (2)

3. Supporting courses from other disciplines (6 units)

For further details, consult the graduate studies adviser, Division of Health Education, Physical Education and Recreation.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

HEALTH EDUCATION COURSES

101 Personal and Community Health (2)

Meaning and significance of physical, mental and social health as related to the individual and to society; alcohol and narcotics education; fire prevention; public safety and accident prevention.

102 Prevention and First Aid (2)

Study of the hazards in man's environment and the common accidents related thereto. Emphasis is placed upon both the care and prevention of accidents. Students will be certified in standard and advanced American Red Cross first aid procedures. (1 hour lecture, 2 hours activity)

321 Stimulants and Depressants (2)

Critical study of habit-forming substances such as alcohol, tobacco, narcotics and related drugs. Social and legal aspects of the drug problem are also considered.

322 Man, Exercise and Leisure (2)

A study of the effect of man's nutrition in relation to exercise. The interrelationships of activity and leisure in modern society and the problems that are associated with them will also be investigated.

419 The School Health Program (3)

Prerequisite: HE 101 or equivalent. Consideration of the three classical divisions of the school health program: instruction, services and environment. Study will include standards, problems, and relationships pertaining to these areas as well as a field project.

421 Public Health (2)

A study of the structure, policies and practices of public health agencies in the United States. Emphasis on factors affecting environmental health.

PHYSICAL EDUCATION COURSES

General Education Requirements:

Health and Physical Education Electives

There are no specific health and physical education requirements. Each student, however, must take a minimum of three courses (9 units) with one from each of three fields included in Category IV, Basic Subjects: computer science, elementary foreign languages, health education, mathematics, oral communications, physical education, reading, statistics or writing. See page 67.

110 Aquatics (1)

A physical activity experience in aquatics activities with a student in an educational setting and under the direction of a faculty member who directs the activity to meet the needs and interests of the student. Open to all students. May be repeated for credit.

120 Group Activities (1)

A physical activity experience in group activities with a student in an educational setting and under the direction of a faculty member who directs the activity to meet the needs and interests of the student. Open to all students. May be repeated for credit.

130 Individual Activities (1)

A physical activity experience in individual activities with a student in an educational setting and under the direction of a faculty member who directs the activity to meet the needs and interests of the student. Open to all students. May be repeated for credit.

140 Dance Activities (1)

(Same as Dance 140)

170 Intercollegiate Sports (W) (1)

An intercollegiate activity experience in individual or team sports for women in an educational setting under the direction of a coach who directs the activity to meet the needs and interests of the student. Consent of coach required for enrollment.

180 Intercollegiate Sports (M) (1)

An intercollegiate activity experience in individual and team sports for men in an educational setting under the direction of a coach who directs the activity to meet the needs and interests of the student. Consent of the coach required for enrollment.

Professional Theory Courses

201 Introduction to Physical Education and Recreation (3)

Introduction to physical education programs in public and private agencies, personal, social and professional requirements of the physical education teacher and recreation leader, includes the origin and development of the professions of health education, physical education and recreation with emphasis upon their significance and function in contemporary American culture.

206 Techniques of Officiating Team Sports (2)

Analysis of officiating techniques and rules necessary for officiating team sports. May be repeated for various sports or combinations of sports. (1 hour lecture, 2 hours activity)

210 Water Safety Instructor (2)

Prerequisite: PE 110 (Life Saving) or equivalent and consent of instructor. This course prepares the student to teach swimming and life saving and to supervise aquatic programs. Successful completion of this course will qualify the student for certification as an ARC Water Safety Instructor. (1 hour lecture, 2 hours activity)

214 Skin and Scuba Diving (2)

Prerequisites: PE 110 (Life Saving) or equivalent and the consent of instructor. The techniques of skin and scuba diving. Theory of diving, safety procedures and applications of diving will be covered. (1 hour lecture, 2 hours activity)

301 Prevention and Care of Athletic Injuries (3)

Prerequisites: upper division standing, successful completion of HE 102 (or equivalent) and consent of instructor. Designed to assist trainers, coaches, physical education instructors, health educators, YMCA and playground personnel, and athletes in the prevention and care of athletic injuries. Emphasis will be on practical applications as well as theory. (2 hour lecture, 2 hours activity)

320 Theory of Coaching: Sports (2)

A physical education experience designed to help prepare the student to coach specific individual and team sports. Emphasis will include coaching techniques, conditioning of athletes, budget preparation, purchase and care of equipment, scheduling and design and care of facilities. May be repeated for credit with emphasis on a different sport. (1 hour lecture, 2 hours activity)

324 Theory and Principles of Human Motor Learning (3)

An analysis of current theories of motor learning as related to human performance. Philosophical bases are developed from which basic principles are evolved.

325 Case Studies in Human Motor Learning (3)

Case studies involving human physical performance. Sequence of activities, individual needs, institutional patterns of organization and programming.

333 Physical Education and Human Development (3)

Emphasis is placed upon characteristics of the child, particularly as these relate to physical growth and development; basic mechanical principles underlying efficient movement; and programs for physical needs of children in the elementary school.

335 Afro-American Dance (2)

(Same as Dance 335)

340 Analysis of Individual Sports (2)

Prerequisites: prior experience in the specific sport(s) offered. Must demonstrate adequate proficiency in each sport(s) offered. Analysis of a specific sport(s) including game play and skill performance. Emphasis on understanding the specific nature of the activity. May be repeated for credit with emphasis on a different sport. (1 hour lecture, 2 hours activity)

341 Analysis of Dual Sports (2)

Prerequisites: prior experience in the specific sport(s) offered. Must demonstrate adequate proficiency in each sport(s) offered. Analysis of a specific sport(s) including game play and skill performance. Emphasis on understanding the specific nature of the activity. May be repeated for credit with emphasis on a different sport. (1 hour lecture, 2 hours activity)

342 Analysis of Team Sports (2)

Prerequisites: prior experience in the specific sport(s) offered. Must demonstrate adequate proficiency in each sport(s) offered. Analysis of a specific sport(s) including game play and skill performance. Emphasis on understanding the specific nature of the activity. May be repeated for credit with emphasis on a different sport. (1 hour lecture, 2 hours activity)

350 History of Physical Education (3)

Historical development of thought and practice in athletics and physical education in American education.

356 Cultural Perspectives of Physical Activity (3) (Formerly 435)

An interdisciplinary approach to the examination of physical activity in the cultural milieau. Study will cover historical and contemporary interpretations of the role of play, games and sports, dance and recreation in human life.

360 Movement Anatomy (3)

Description of human movement especially as witnessed in sports. Comprehension of muscle action and function in various sports.

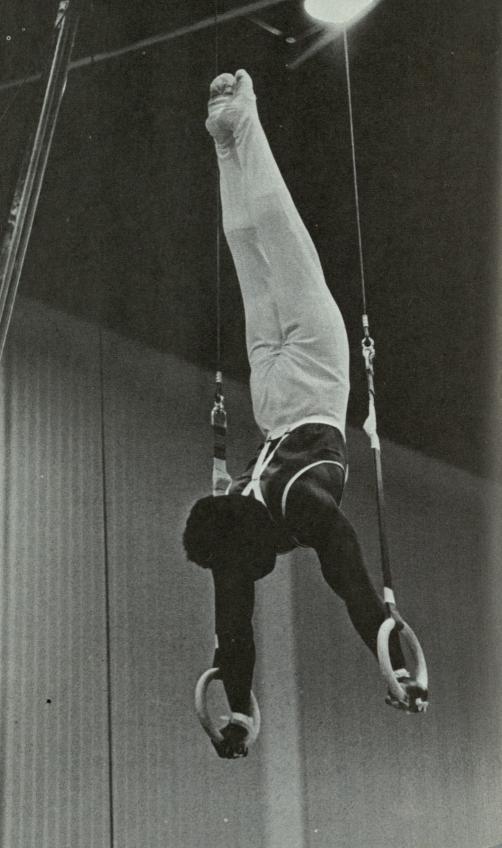
361 Biochemics of Sport (3)

Sports technique analysis. General techniques of motion study and application of mechanical principles to sport.

370 Physiology of Exercise (4)

The study of physiological processes in physical activities and the effects of training upon performance. (3 hours lecture, 3 hours laboratory)





418 Adapted and Corrective Activities (3)

Prerequisite: PE 360. The study and selection of activities and programs for students physically unable to participate in the regular physical education program.

420 Tests and Measurements in Physical Education (3)

A study of the development and use of tests and measurements in physical education in the evaluation of objectives, programs, and student achievement.

425 Special Programs: Physical Education (1-3)

Prerequisite: upper division standing. Group investigation of selected topics determined by professionals in the field. Will be offered as a one-, two- or three-unit course. May be repeated for credit.

431 Health, Physical Education, Recreation and Athletics in the Community Colleges (3)
A course designed to prepare students for community college teaching and for administrative positions. An investigation of the role of health, physical education, recreation and athletics in

the community college curriculum. Fieldwork and campus visitations required.

436 Sport Psychology (3)

Discussion and analysis of literature, research and issues dealing with psychological aspects of play, games and sport. (Same as Psychology 436)

437 Sport Sociology (3)

A critical examination of the interrelationships of sport and athletics with other aspects of the culture; special emphasis on 20th-century America.

442 Teaching Physical Education in the Secondary School (2)

Prerequisite: Education 340, Education 411, admission to teacher education, senior standing or consent of instructor. The student who has not had teaching experience must register concurrently in Education 449. See page 199 under Secondary Education for description of Standard Teaching Credential program. Objectives, methods, and materials including audiovisual instruction for teaching physical education in secondary schools.

482 Ethnic Dance (3)

(Same as Dance 482)

484 Contemporary Dance Technique (3)

(Same as Dance 484)

486 Choreography (3)

(Same as Dance 486)

496 Physical Education Practicum (1-3)

Prerequisite: consent of the department chairman and instructor. Participation as an assistant in planning, preparing, coaching, teaching in public school, college, or community physical education or recreation programs. May be repeated for a maximum of six units of credit. Credit/no credit only.

499 Independent Study (1-3)

Prerequisites: upper division standing and consent of instructor supervising the study and department chairman. Independent inquiry into problems of topics of special interest beyond the scope of regular coursework. May be repeated for credit up to six units.

510 Research in Health Education, Physical Education and Recreation (3)

Prerequisite: graduate status. The role and functions of research in health, physical education, and recreation; included are the different types of research with tools of and equipment for the respective research. Selection and development of research problems and critique of completed studies are stressed.

515 Seminar in Physical Education (3)

Prerequisite: graduate status with a major or minor in physical education. A study of current problems and issues in physical education through a critical analysis of the literature in the field and research findings.

516 Philosophical Bases of Physical Education (3)

Prerequisite: graduate status with a major in physical education. Identification of philosophical schools of thought as related to physical education including the role of the philosophical process. Examination and application of the philosophical process in physical education.

520 International Physical Education (3)

Prerequisite: graduate status with a major in physical education. An in-depth study of the theory and practice of physical education and sports in selected foreign countries. Evaluation of foreign physical education programs in relation to programs witnessed in the United States.

530 Administration and Supervision of Health Education, Physical Education and Recreation (3)

Prerequisite: graduate status with major in physical education. An in-depth study and critical analysis of existing programs in health education, physical education, and recreation in terms of established evaluative criteria and norms of practice.

532 Curriculum Design in Physical Education (3)

Prerequisite: graduate status with a major in physical education. Study in desirable practices, procedures, and factors influencing curricular development in the field of physical education. Especially designed for the practicing teacher, supervisor of physical education, and the school administrator concerned with physical education in the total school program.

533 Facilities Development and Planning (2)

Prerequisites: graduate status and a major in physical education. Analysis of new trends and research in the development of indoor and outdoor facilities in planning programs in health education, physical education and recreation with special emphasis upon design, safety, features, site selection, building construction and equipment needs.

540 Seminar in Problems in Adapted Physical Education (3)

Prerequisite: PE 418. Identification and solutions of problems in planning, organization, administration, and evaluation of adapted physical education programs at local, state and national levels.

545 Seminar in Evaluation in Physical Education (3)

Prerequisite: graduate status with a major in physical education. The study and application of advanced evaluation procedures and scientific instrumentation used in the solution of current problems and projects in physical education.

551 Seminar: Advanced Study in Physiology of Exercise (3)

Prerequisite: PE 370 or equivalent. A study of advanced theories of exercise and physiological function

552 Human Bio-Kinetics (3)

Prerequisite: PE 361 or equivalent background in kinesiology. A study of advanced theories and a detailed analysi of human movement.

555 Scientific Bases of Training (3)

Prerequisites: graduate status, coursework in kinesiology, physiology of exercise, bio-kinetics, and consent of instructor. Detailed study of contemporary training with specific attention to the development of those qualities involved in various sports. Experience in evaluation of the effects of training.

560A Advanced Study in Performance: Badminton and Tennis (2)

Prerequisites: graduate status, advanced preparation and/or experience in badminton and tennis or consent of instructor. Theory and analysis of top level performance. Includes in depth study of skills, techniques and strategy involved in badminton and tennis and the factors pertinent to outstanding athletic performance.

560B Advanced Study in Performance: Gymnastics (2)

Prerequisites: graduate status, advanced preparation and/or work in gymnastics or consent of instructor. Theory and analysis of top level performance. Includes in-depth study of the skills and techniques involved in gymnastics and the factors pertinent to outstanding athletic performance.

560C Advanced Study in Performance: Track and Field (2)

Prerequisites: graduate status, advanced preparation and/or work in track and field or consent of instructor. Theory and analysis of top level performance. Includes in-depth study of the skills, techniques, and strategy involved in track and field and the factors pertinent to outstanding athletic performance.

596 Advanced Studies: Physical Education (1-3)

Prerequisite: graduate status. Graduate seminars designed to develop competencies in such areas as: historical, philosophical, sociological, psychological, scientific bases of sport and dance. Opportunities are provided for the individualization of instruction with appropriate experiences. May be repeated for credit.

597 **Project** (2)

Prerequisites: PE 510 and consent of instructor. Individual work on an empirical problem. Conferences with project chairman and committee, culminating in a project.

598 Thesis (4)

Prerequisites: PE 510 and consent of instructor. Individual research on an empirical problem. Conferences with thesis chairman and committee, culminating in a thesis.

599 Independent Research (1-3)

Prerequisites: graduate status and consent of the faculty adviser and department chairman. Research for qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.

749 Student Teaching in Physical Education in the Secondary School and Seminar (6) See page 208 for description and prerequisites.

RECREATION COURSES

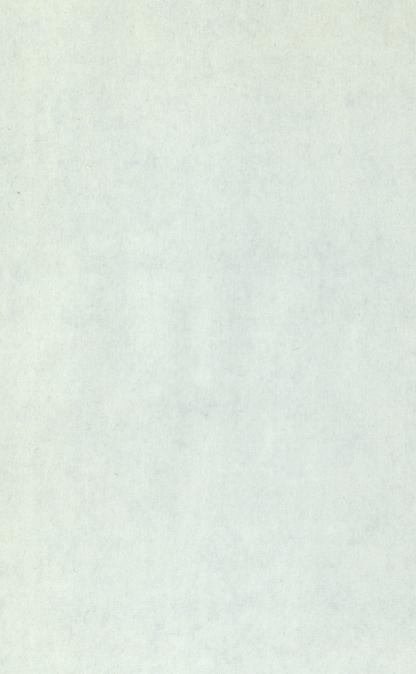
203 Recreation Programs and Activities (3)

Prerequisite: consent of instructor. Theory and activity course, leadership in recreation programs, activities in recreation agencies. Laboratory experiences and practice included. (1 hour lecture, 2 hours activity)



LETTERS, ARTS AND SCIENCES

443-3 12 63



SCHOOL OF LETTERS, ARTS AND SCIENCES

Dean: Hazel J. Jones

The curricula of the School of Letters, Arts and Sciences are designed to provide opportunities for the student to expand his general knowledge, to develop a beginning specialization, to investigate areas of intellectual interest, and, if he chooses, to prepare himself for specialized professional studies.

The School of Letters, Arts and Sciences is presently comprised of 21 departments offering 23 undergraduate majors leading to the Bachelor of Arts or Bachelor of Science degree and 19 master's programs leading to the Master of Arts or Master of Public Administration degree.

DEPARTMENT OF AFRO-ETHNIC STUDIES

FACULTY

Wacira Gethaiga Chairman

Michael Finnie, Cheryl Armstrong, Iim Hancock, Sonia Tilden, Boaz Namasaka

BACHELOR OF ARTS IN ETHNIC STUDIES

This degree program is designed to provide an effective vehicle for meeting a variety of needs in contemporary higher education. These are: extending opportunities for university education to students who have long been under-represented due to cultural differences between their experiences and the cultural emphasis of higher education; providing for personal consultation between faculty and students of diverse cultural backgrounds; revising curriculum and promoting research to give all students and faculty an understanding of the interaction of ethnic groups in past and contemporary civilizations; and conducting continuous research in innovative teaching methods and courses to create more effective means of teaching students in a culturally pluralistic environment.

AFRO-AMERICAN STUDIES OPTION

The required minimum for the major is 36 units: Afro-Ethnic Studies 103 *, 107 and 240 plus six additional units from lower division offerings and a minimum of 24 units in upper division courses.

The purpose of the Afro-American studies option is: to provide a specialization in Afro-American studies within the framework of a more generalized and comprehensive ethnic studies perspective; to provide greater flexibility and more electives within the ethnic studies program to meet the variety of needs and interests of the diverse group of students selecting this program; to acquaint students with the problems, successes and failures of America's largest minority group; to help students understand the nature of contemporary ethnic and social turmoil and guide them into constructive modes of thought about current issues; to enable students to see the black experience in America in a world setting; and to enable students to lead more effective lives in a culturally pluralistic and rapidly changing society.

To accomplish this, it is important that prospective majors and others interested in a minor consult with the Afro-American faculty for advice.

Required

- 103 Effective Communication (3) *
- 107 Introduction to Afro-American Studies (3)
- 240 Afro-American History (3)

Lower division electives: (6 units required)

- 101 Introduction to Ethnic Studies (3)
- 104 Swahili (4)

^{*} Students can be exempted from Afro-Ethnic Studies 103 by an examination and/or consent of department.

248 Afro-Ethnic Studies

- Swahili (4) 105
- 170 The Amer-Asian (3)
- The Native American (3) 230
- 245 Black Political History
- 250 Cultural Scars of Oppression (3)
- Cultural Identity and the Contemporary Black Man (3) 260
- 285 Schools and Minority Groups (3)

Upper division electives: (24 units required)

- 301 Afro-American Culture (3)
- Ancient and Modern African Culture (3) 303
- 305 Community Organizations (3)
- 309 The Black Family (3)
- 314 Pan-African Dance and Movement (3)
- 315 Pan-African Art (3)
- Europe, Africa and America in Modern Western Civilization (3) 345
- 346 The African Experience (3)
- Black American and Contemporary Issues (3) 401
- 402 Africa and Self-Determination (3)
- 410 Afro-American Literature (3)
- 411 Black Writers' Workshop (3)
- 460 Afro-American Music (3)
- 495 Selected Topics (3)
- Independent Study (1-3) 499

AFRO-ETHNIC STUDIES COURSES

101 Introduction to Ethnic Studies (3)

A survey of the basic concepts and problems involved in an examination of the perspective through which black and brown people have come to see themselves in terms of their own heroes, culture, and contributions to societies in which they live and world society in general.

103 Effective Communication (3)

A methodical presentation of the basic skills, emphasizing writing and communication skills, stressing the use of idioms, proper pronunciation, intonation, and correct English patterns.

104 Fundamental Swahili (4)

(Same as Swahili 101)

105 Fundamental Swahili (4)

(Same as Swahili 102)

107 Introduction to Afro-American Studies (3)

Introduction to the aims and objectives of the Afro-American studies program. The course will define and explore the basic terms and references that give substance to Afro-American studies. It will provide uniform purpose and direction for students who seek an education in Afro-American studies.

230 The Native American (3)

A study of the American Indian experience in the United States as seen from the Indian's point of view in comparison with that of the white man. Special attention will be focused on the problems of American Indians today.

240 Afro-American History (3)

A survey of the social, political, and economic history of black people in the United States from slavery to the present.

245 Black Political History

Background in the political development of the United States and the influence of slavery there on to the present date. Included is a survey and analysis of the U. S. Constitution showing separate political development of white and black.

250 Cultural Scars of Oppression (3)

An examination of the process of socialization of the black man in America and its imprints upon his psyche.

260 Cultural Identity of the Contemporary Black Man (3)

An examination and study of the "identity crisis" or lack of it in young black individuals in the United States. An in-depth analysis of the changing points of view of the black toward acculturation.

270 The Amer-Asian (3)

A survey of the Asian-American experience from the early 19th century. Includes: analysis of the discriminatory legislation as reflected in immigration quotas; investigation of the fallacies surrounding the Asian-American experience; and study of present day attitudes in the Asian community.

285 Schools and Minority Groups (3)

A study of the prevailing educational practices in regard to minority groups in elementary school through college, including minority students' failure patterns, what is being done to change failures, and the outcomes of these practices.

301 Afro-American Culture (3)

A survey of African cultural characteristics in the New World, as they relate to contemporary events, including art, ideas, dance and literature.

303 Ancient and Modern African Culture (3)

Prerequisite: advanced sophomore or upper division standing. A survey of the African cultures (specifically West African contrasted with East African) before the period of exploration and after colonization. A look at the present-day American black culture and an estimation of the carry-over cultures.

305 Community Organizations (3)

A study of organization agencies, such as Partners for Progress, Fair Housing, SER, Urban League and the local welfare systems and their relevancy to the minority community. Students will be involved in field research and assess the goals and accomplishments of an organization selected for study.

309 The Black Family (3)

A study of the American social conditions that shaped the black family from the African cultural patterns that were destroyed during slavery to the family that exists today. Special attention will be given to the roles of poverty, racism and discrimination.

314 Pan-African Dance and Movement (3)

Theory and practice of movement of African and Haitian peoples. An investigation of how movement (dance) acts as quasi-language in perpetuating the life style of African cultures and cultures of African descent.

315 Pan-African Art (3)

A study of African and Afro-American art from prehistoric to contemporary times, including African influences in other art forms and a stylistic analysis of drawings, sculpture and paintings.

345 Europe, Africa and America in Modern Western Civilization (3)

A historical examination of the interrelationships and interactions of European, African and American cultures. Particular emphasis will be placed upon the effects of slavery, colonization and self-determination upon various cultures.

346 The African Experience (3)

A survey of major themes of African history from the origin of the black man and traditional African civilization through the African diaspora to the institutional realities of Africa today.

401 Black American and Contemporary Issues (3)

Analysis and discussion of the socioeconomic and political problems confronting black Americans, with an emphasis on problem solving. Particular focus will be placed on the effects American social attitudes and institutions have had on the black community. Research will focus on these areas.

402 Africa and Self-Determination (3)

Prerequisite: Afro-Ethnic Studies 303. A study of the national characters of African nations, how they shed labels like "tribes" and united to demand the independence they had lost.

410 Afro-American Literature (3)

A study of the literary endeavors of Afro-Americans and their cultural impact, especially in relationship to the social and psychological evolution of the Afro-American.

411 Black Writers' Workshop (3)

Practice in writing prose, fiction, drama, short stories, book reviews, poetry and essays from the perspective of the black experience.

460 Afro-American Music Appreciation (3)

A survey of black music in America; the sociological conditions that help produce various forms of black music; and influential black music in America.

495 Selected Topics (3)

Prerequisite: junior status or consent of instructor. Special seminar in selected topics in Afro-American studies.

499 Independent Study (1-3)

Prerequisites: senior level and acceptance of the subject by department chairman and the faculty member directing the study.

DEPARTMENT OF AMERICAN STUDIES

FACULTY

David Pivar

Department Chairman

E. James Weaver

BACHELOR OF ARTS IN AMERICAN STUDIES

The degree in American studies is an interdisciplinary program within the School of Letters, Arts and Sciences. The program is designed for students with a special interest in the American experience, including the overseas experience. It permits, through intensive study of the United States, greater perception of American society, both contemporary and historical. By providing students with an opportunity to discover the larger relationships among disciplines, the student may receive a better sense of the whole.

The American studies degree prepares students for teaching either on the elementary or secondary level. Credentialing, usually handled during the fifth year of study, may be obtained for students enrolled in this interdisciplinary program. American studies is useful for any career in which an understanding of American culture is important. Specialized careers in American studies, leading to the Ph.D., are also available.

Since two alternative programs are available, the student interested in becoming a major must consult with an American studies counselor to develop a course of study mutually satisfactory.

The major consists of 36 units distributed as follows between the core program and either plan a or b:

- I. Core program (12 units) required of all majors.
 - 201 Introduction to American Studies (3)
 - 301 The American Character (3)
 - 350 Seminar in Theory and Method of American Studies (3)
 - 401 Proseminar in American Studies (3)
- II. Alternative plans (24 upper division units in either plan—electives in American Studies may be used in conjunction with courses in other departments)
 - a. The student may choose to work in two but not more than three disciplines related to the American experience; i.e.: history and literature or sociology, anthropology and political science.
 - b. The student may choose to pursue a specialized theme or subject; i.e., mass culture, urbanization or ethnic groups in American society, or the student may choose to concentrate on 20th-century American problems.

Students interested in the American studies major must consult with the chairman of the department before establishing an individual course of study.

The number of courses offered by the department is expected to increase in 1972-73, and students are urged to consult the class schedule for such offerings as Irish-Americans and the Cult of Success and The Hero in American Popular Culture.





AMERICAN STUDIES COURSES

201 Introduction to American Studies (3)

With the concept of culture as a unifying principle, this course will focus on four separate time periods in order to provide the framework for an understanding of American civilization. Several different kinds of documents will be used to illustrate the nature and advantages of an interdisciplinary approach.

301 The American Character (3)

Prerequisite: American Studies 201 or History 170A or B or consent of instructor. An intensive examination of the changing national character. Reading assignments will reflect an interdisciplinary approach, ranging from poetry to sociology. Some attention will be paid to the American Negro and Indian in addition to the transplanted European, and foreign perspectives on the American will be considered.

333 Visual Arts in Contemporary America (3)

Visual phenomena in America as they reveal changes in recent American culture. Areas covered include the "high" arts (painting, sculpture) as contrasted with the "low" arts (advertising, television); the artist as innovator, alienation, the business world, and American values in art.

350 Seminar in Theory and Method of American Studies (3)

Prerequisites: American Studies 201 and 301; or History 170A or B; or consent of instructor. Designed to provide the American studies major with an understanding and appreciation of methodology, theories of society and images of man as they effect American studies contributions to scholarship.

401 Proseminar in American Studies (3)

Prerequisites: American Studies 201 and 301; or History 170A or B; or consent of instructor. Designed to permit students to examine the relationship between theory and application. Emphasis on analytic readings and research. Topics will be announced each semester. Some examples might be: The novelist as historian or the concept of postindustrial society.

402 Religion in the Development of American Society (3)

Prerequisites: American Studies 201 and 301; or History 170A or B; or consent of instructor. An intensive study of the changing role of religion in shaping, reflecting, and challenging dominant American values and institutions. Focus is on the 19th and 20th centuries, although some attention will be paid to the colonial period.

425 Darwinism in American Literature (3)

(Same as English 425)

450 Women in American Society (3)

An effort to explain the rise and decline of feminism in America. The first half of the course will be lecture. The second half will be devoted to discussion aimed at comparing and contrasting the contemporary woman's movement with its predecessors.

499 Independent Study (1-3)

Supervised research projects in American studies to be taken with the consent of instructor and program coordinator. May be repeated for credit.

Related courses in other departments: English 325 American Ballad and Folksong (3)

DEPARTMENT OF ANTHROPOLOGY

FACULTY

Hans Leder

Department Chairman

Lawrence Christensen, Marlene de Rios, David Evans, Nga Pare Kaihina Hopa, Christopher Hulse, Leroy Joesink-Mandeville, Roger Joseph, Fred Katz, Peter Koepping, Otto Sadovszky,* Richard See, Judy Suchey, Wayne Untereiner *

^{*} University administrative officer

BACHELOR OF ARTS IN ANTHROPOLOGY

The major in anthropology is designed for students desiring a broad generalist background, students preparing to become teachers of social sciences, and students preparing for graduate work in anthropology and in advanced specializations on particular areas (Africa, Asia, etc.) or with cross-cultural and international emphasis.

The required minimum for the major is 45 units, in addition to those taken for the general education requirement, distributed as follows:

Thirty-three units must be taken in anthropology, 24 in upper division courses. Anthropology 201, 202, 203, 380, 401, 406, and 480 are required. One course is required from areal offerings in the field: Anthropology 204, ‡303, 321, 322, 324, 325, 328, 340, 341, 345, 347, 350, 351, 352, 360, and 361. Two courses are required from theoretical/institutional courses in the field: Anthropology ‡313, ‡315, 403, ‡407, ‡408, ‡410, 411, 412, 413, 415, ‡416, 420, 421, ‡422, 423, 424, 425, 428, 429, 430, 440, 441, 450, ‡453, 460, 465, 470 and 490.

(The courses marked with ‡ are cross-listed with other departments and programs. They may be used to satisfy the major requirement for: either the courses in anthropology; or related courses.)

Twelve upper division units are to be taken in the related social science fields of economics, geography, history, political science, sociology and psychology, to be approved by the major adviser. Advanced work in biological science, the fine and applied arts, and the humanities may be substituted for these units by students with specialized interests with the approval of their advisers. Students interested in specializing in anthropological linguistics are urged to take courses from the university's program in linguistics. Students interested in specializing in physical anthropology are urged to take some of the following biological science courses: 161, Principles of Zoology; 312, Genetics; 361, Mammalian Anatomy and Physiology; 404, Evolution; 463, Comparative Vertebrate Anatomy; 465, Animal Ecology; and 471, Natural History of the Vertebrates. Students interested in specializing in primitive art are urged to take many of these art courses: 451, Oceanic Art; 452, Art of Sub-Saharan Africa; 461, Art of North American Indians; 462, Art of Mesoamerica; 471, Art of Central and South America.

thropology are urged to explore and sample widely from course offerings in the other social sciences, the biological and natural sciences and the humanities and arts. Through a judicious selection of these courses it is hoped that anthropology majors will broaden their interests and diversify and develop their skills in working towards a variety of individualized career objectives.

The Department of Anthropology's main emphasis is on *cultural anthropology*. The comparatively great number of linguistic offerings is due only to the purpose of cross-listing courses.

TEACHING MINOR IN ANTHROPOLOGY

The minor in anthropology is intended as a second field for persons completing a major in another discipline in preparation for a teaching credential. Twenty-one units must be taken in anthropology; 15 of these in upper division courses. Anthropology 201 or 203, 202 and 380 are required. Two additional courses must be selected from areal offerings in the field. Anthropology 303, 321, 322, 324, 325, 328, 340, 341, 345, 347, 350, 351, 352, 360 and 361. Another course must be selected from theoretical/institutional courses in the field: 313, 315, 403, 406, 407, 408, 410, 411, 412, 413, 415, 416, 420, 421, 422, 423, 424, 425, 428, 429, 430, 440, 441, 450, 453, 460, 465, 470 and 490. A final course must be either Anthropology 401 or 480.

MASTER OF ARTS IN ANTHROPOLOGY

The program for this degree provides advanced study of general anthropology as well as research and other learning experiences for students with specialized areas of interest or competence. This program has its main emphasis on *cultural anthropology*. (The comparatively great number of linguistic offerings is due only to the purpose of cross-listing courses.) After consultation with his adviser, a student may, however, decide to concentrate in archaeological, linguistic or physical anthropology.

Prerequisites

Admission to the program requires:

- A bachelor's degree with a minimum of 27 units in anthropology, including the following courses or their equivalents:
 - 201 Introduction to Physical Anthropology (3)
 - 202 Introduction to Cultural Anthropology (3)
 - 203 Introduction to Archaeology (3)
 - 380 Ethnological Theory (3)
 - 401 Ethnographic Field Methods (3)
 - 406 Descriptive Linguistics (3)
 - 480 History of Anthropology (3)

One areal course (e.g. Anthropology 328, Peoples of Africa)

One theoretical or topical course (e.g. Anthropology 415, Culture and Personality: Psychological Anthropology)

Reading courses and special examinations may be substituted for some of these prerequisites by the department.

- 2. A GPA of 3.0 (B) for all work taken in anthropology.
- Evaluation and acceptance by the graduate study committee. The applicant must submit at least two letters of recommendation and may be required to attend a personal interview at the discretion of the graduate study committee.

Students with limited subject or grade deficiencies may be considered for admission to the program upon completion of additional courses, selected by the graduate study committee, with at least a 3.0 (B) average.

Study Plan

The study plan for the degree must include the following:

		Units
1. Anthropology 501	Methodology of Anthropological Research	3
2. Anthropology 502	Contemporary Theory in Cultural Anthropology	3
3. Anthropology 598	Thesis	6
4. Two additional gra	duate seminars in anthropology	6
5. Upper division or	graduate work in anthropology	6
6. Upper division or	graduate work in related fields	6
		Sale of the
		30

Any adviser-approved 300- or 400-level course taken as a graduate student may be used for requirements 5 and 6. Anthropology 599, Independent Graduate Research, may be used for requirement 5.

For continuation in the program an average of 3.0 (B) for all work in the study plan must be maintained. A thesis must be completed for the degree. Normally a student will register for thesis two times, for three units each semester. Students must demonstrate reading knowledge of an appropriate foreign language prior to completion of the degree.

For further information, consult the Department of Anthropology.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

ANTHROPOLOGY COURSES

201 Introduction to Physical Anthropology (3)

Man in biological and evolutionary perspective. Methods, findings, concepts, and issues in the study of primates, fossil men and races.

202 Introduction to Cultural Anthropology (3)

The nature of culture and its significance for man. Uniformities and variations in human cultures. Cultural analyses of major institutional forms such as the family, economy, government, religion and art with an emphasis on preliterate peoples. A consideration of central problems of cultural comparison and interpretation.

203 Introduction to Archaeology (3)

Relationship of archaeology, prehistory, and culture history; field methods and analysis of archaeological data. A survey of world culture history, from Pleistocene beginnings to the threshold of civilization; and introduction to the world's early centers of civilization.

204 Man's Many Faces (3)

The study and analysis of a broad selection of human societies, which will provide a perspective on how human problems have been solved and the possibilities for new solutions to our own problems

303 Woman in Cross-Cultural Perspective (3)

Prerequisite: Anthropology 202. A description, analysis and survey of the social position of woman in cultures of the world. Attention is given to the influence of biological determinants as they are shaped by cultural factors such as beliefs, values, expectations and socially defined roles for women. The changing role of women in industrial society will form an important analytical segment.

313 Human Genetics

(Same as Biological Science 313)

315 Jazz: Past, Present and Future (3)

(Same as Interdisciplinary Center 315)

321 The American Indian (3)

Prerequisite: Anthropology 202 or consent of instructor. A cultural survey of North American Indians north of Mexico; origins, languages, culture areas, cultural history; the impact of European contacts.

322 Peoples of Mesoamerica (3)

Prerequisite: Anthropology 202 or consent of instructor. General survey of the culture history and ethnology of the Mesoamerican culture-area, with treatment of each of the principal subareas in depth. Analysis of both the native civilizations of Mesoamerica and the present-day ethnological societies, emphasizing sociopolitical organization, economic systems and religious systems.

324 Ancient Mesoamerica (3)

Prerequisite: Anthropology 202 or consent of instructor. A culture history survey of the principal cultures of pre-Columbian Mesoamerica from the dawn of incipient agriculture to the Spanish conquest.

325 Peoples of South America (3)

Prerequisite: Anthropology 202 or consent of instructor. A cultural survey of Central and South America. Description of selected cultures representative of different cultural areas before and after contacts with Western countries.

328 Peoples of Africa (3)

Prerequisite: Anthropology 202 or consent of instructor. A cultural survey of Africa. Description of selected cultures representative of different cultural areas before and after contacts with Western and Asian countries.

340 Aboriginal Peoples of Asia (3)

Prerequisite: Anthropology 202 or consent of instructor, Survey of cultural areas outside the centers of high civilizations of China and Japan. Emphasis on steppe-nomadism, Siberia, and ethnic splinter groups between India and the Philippines, with focus upon their influence on the cultural centers and vice versa. Ecology, migration routes, social organization, religious systems.

341 Peoples of China and Japan (3)

Prerequisite: Anthropology 202 or consent of instructor. Description and analysis of the religious, social and technological systems of the civilizations of Japan and China, as well as the impact of nomadic herders of North and Central Asia upon those centers, from an anthropological point of view. Also, a comparison of community studies on these regions.

Peoples of the Middle East (3)

Prerequisite: Anthropology 202 or consent of instructor. A cultural survey of the Middle East with descriptions of selected cultures (Arab urban, nomadic, Jewish, Turk, Berber, Kurd).

347 Peoples of the Pacific

Prerequisite: Anthropology 202 or consent of instructor. A survey of the native peoples and cultures of the Pacific Islands, including Australia; the social and cultural patterns of representative cultures of various areas; special ethnological and theoretical problems.

350 Peoples of Western Europe (3)

Prerequisite: Anthropology 202 or consent of instructor. Representative groups considered in modern and historical perspective, stressing especially rural-urban relationships and the dynamics of change.

351 Peoples of Eastern Europe (3)

Prerequisite: Anthropology 202 or consent of instructor. Peasant cultures of Russia, Southeast Europe, Poland, Czechoslovakia and the Baltic area, their traditional way of life and the impact of industrialization and Communist ideology.

352 Peoples of Ancient Europe (3)

Prerequisite: Anthropology 202 or consent of instructor. A survey of the cultural and social institutions of the peoples of Pre-Christian Europe. Particular attention will be paid to the Greek, Italic, Germanic and Celtic peoples, and readings will be drawn largely from original ancient writers.

360 Contemporary American Culture (3)

Prerequisite: Anthropology 202 or consent of instructor. Application of anthropological methods, categories of analysis, and types of interpretation to American culture. Survey and critique of selected community studies and other kinds of relevant research.

361 Afro-American Culture (3)

Prerequisite: Anthropology 202 or consent of instructor. An introduction to African culture. A survey of African cultural characteristics in the New World, as they relate to contemporary events, including art, ideas, dance and literature.

380 Ethnological Theory (3)

Prerequisite: Anthropology 202 or consent of instructor. A survey on the theories about the position of man as a social and cultural being in the network of biological and environmental as well as intrapersonal factors, as described and thought about by philosophers in Greece, during the Renaissance, and particularly in the 19th century up to modern times in the Western World.

401 Ethnographic Field Methods (3)

Prerequisites: Anthropology 202 and 6 additional units of anthropology or consent of instructor.

Anthropological field research by students on various problems using participant observation techniques.

403 Archaeological Fieldwork (3)

Prerequisites: Anthropology 202 or 203 and consent of instructor. Participation in the excavation of a local archaeological site. Archaeological mapping, photography and recording. Laboratory methods of cataloging, preservation, description and interpretation of archaeological materials. Saturday field sessions. (6 hours fieldwork per week)

406 Descriptive Linguistics (3)

(Same as Linguistics 406)

410 Language and Culture (3)
Prerequisite: Anthropology 202 or consent of instructor. The study of language as a factor in culture.
Introduction to anthropological linguistics. Trends in the study of language and culture. (Same as Linguistics 410)

411 Folklore (3)

Prerequisite: Anthropology 202 or consent of instructor. An introduction to the study of folktales, myths, legends, proverbs, riddles and other forms of the verbal traditions of peoples. Major concepts and theories and research methods in the study of folklore.

412 Comparative Oral Literature (3)

A comparative survey of oral literature and its role in society. The types of oral narratives, their themes, meanings, and functions will be analyzed.

413 Ethnological Music (3)

Music, musicmaking and musicians in various nonliterate societies.

415 Culture and Personality: Psychological Anthropology (3)

Prerequisites: Anthropology 202 and Psychology 331 or 351 or Sociology 341 or consent of instructor. Comparative study of the relationship between the individual and his culture. Child training in nonwestern cultures. Survey of important concepts, studies, and research techniques. Changing viewpoints and new directions in culture-personality studies.

416 The Quest for Self: East and West (3)

(Same as Interdisciplinary Center 403)

420 Primitive Value Systems (3)

Prerequisite: Anthropology 202 or consent of instructor. Study of what properly is considered "common sense" in the everyday life of people living within differing sociocultural environ-

421 Anthropology of Religion (3)

Prerequisite: Anthropology 202 or consent of instructor. Examination of beliefs and practices in the full human variation of religious phenomena, but with an emphasis on primitive religions. The forms, functions, structures, symbolism, and history and evolution of man's religious systems. Analysis of major categories, concepts, and theoretical models used by anthropologists in the study of religion.

422 Jewish and Comparative Mysticism (3)

(Same as Interdisciplinary Center 422)

423 Comparative Aesthetics and Symbolism (3)

An analysis of the metaphysical and mystical systems underlying the "grammars" of the art, poetry, languages, myths, music, and rituals of various nonliterate and literate peoples and their development into creative experiences.

424 Psychedelic Anthropology (3)

A study of states expanded consciousness. It is a synthesis of anthropology, sociology, philosophy, psychology, psychoanalysis, mythology, mysticism, esoteric systems and the religious traditions of East and West, including Yoga and the Vendanta, Zen Buddhism, Taosim, Islam, ancient and primitive religions, Judaism and Christianity.

425 Anthropology of Law and Government (3)

Prerequisite: Anthropology 202 or consent of instructor. Sources of law-government in primitive societies; the cultural background of law; the functions and development of law and government in primitive politics; transitions to and comparisons with classical and modern legal and political systems.

428 Social Anthropology (3)

Prerequisite: Anthropology 202 or consent of instructor. A study of the social organization of preindustrial societies; religious, political and economic institutions; status and value systems; conditions and theories of change.

429 Kinship and Social Organization (3)

Prerequisites: Anthropology 202 and 428 or consent of instructor. Kinship systems in primitive society and their significance in the organization of social life. Theories of kinship, marriage regulations, and kinship role patterns. Analysis of the formal properties of diversely structured kinship systems and techniques of kinship and structural analysis.

430 Economic Anthropology (3)

Prerequisite: Anthropology 202 or consent of instructor. Analysis of anthropological concepts of economy, ecology, and technology; relationship between habitat, economy, and culture. A survey of the different types of economic systems found throughout the world; outline of the economic development of mankind.

440 Human Evolution (3)

Prerequisite: Anthropology 201. Advanced human evolution; human physiological and related curtural evolution as displayed in the fossil record, adaptations, problems in human evolution.

441 Human Races (3)

Prerequisite: Anthropology 201. In seminar a historical study of racial classifications; analysis of processes of race formation; analysis of the concept of race and racism; and the study of variation in modern populations.

450 Culture and Education (3)

Prerequisite: Anthropology 202 or Education 301 or consent of instructor. The transmission of values, implicit cultural assumptions, and the patterning of education in cross-cultural perspective, with special attention to American culture and development problems.

460 Culture Change (3)

Prerequisites: Anthropology 202 and 301 or consent of instructor. Interrelations between cultural, social and psychological processes in the dynamics of culture growth and change. Impact of western technology on tribal and peasant societies. Anthropological contributions to the planning of directed sociocultural change in selected areas.

465 Alternative Futures (3)

A study of the growing literature on the future and a consideration of its implications for anthropology and the other social sciences and humanities.

470 Philosophical and Behavioral Foundations of Anthropology (3)

Prerequisite: Anthropology 202 and open to lower division students with the consent of instructor. Consideration of basic assumptions and contexts of anthropological work. The synthesis of ideas and methods into professional skills and careers.

480 History of Anthropology (3)

Prerequisite: at least 12 units of anthropology or consent of instructor. Historical antecedents of modern anthropology. A systematic survey of the development of anthropology as a scientific field; and examination of the principal contributions of leading anthropologists, past and present. Reinterpretations and emerging trends.

490 Senior Seminar in Anthropology (3)

Prerequisite: consent of instructor. Topics in anthropology selected by the faculty and students participating in the course. May be repeated for credit.

499 Independent Study (1-3)

Prerequisites: at least 15 units of anthropology and consent of adviser. Student selection of an individual research project involving either library or fieldwork. There are conferences with the adviser as necessary, and the work results in one or more papers. May be repeated for credit.

501 Seminar: Methodology of Anthropological Research (3)

Prerequisites: Anthropology 202, 401 and consent of instructor. Examination, analysis and evaluation of the contemporary methodological spectrum in anthropology and of new trends in research planning and implementation. Consideration and critique of specific cases involving differing research designs.

502 Contemporary Theory in Cultural Anthropology (3)

Prerequisite: Anthropology 480 or consent of instructor. Critique of the basic assumptions and theoretical positions of leading contemporary anthropologists.

504 Seminar: Selected Topics in Anthropology (3)

Prerequisites: completion of undergraduate major in anthropology and/or graduate standing or consent of instructor. The topic chosen and a general outline of the seminar will be announced by the Department of Anthropology to graduate students in Anthropology and circulated to other potentially interested departments. May be repeated.

505 Seminar: Phonological Analysis (3)

(Same as Linguistics 505)

507 Seminar: Morpho-syntax (3)

(Same as Linguistics 507

508 Modern Theories of Syntax (3)

Prerequisite: Anthropology 507 or Foreign Languages 507 or Linguistics 507 or consent of instructor. Speech 404 and Anthropology 410 recommended but not required. Intensive and practical study of contemporary theories of grammar, with special emphasis on transformational, generative, logical and electromechanical bases and techniques of utterance analysis. (Same as Linguistics 508)

550 Seminar in Problems in the Teaching of Anthropology (3)

Prerequisite: consent of instructor. Discussion of a variety of methods and materials for the teaching of anthropology at primary, secondary, and undergraduate college levels.

592 Field Methods in Linguistics (3)

Prerequisites: Anthropology 505 and 507 or consent of instructor. Methods of analysis and description of language structures. Data elicited from informants will be analyzed and described. Controlled study of a live informant's language. (Same as Linguistics 592)

598 Thesis (3-6)

Prerequisites: graduate standing and consent of instructor. The writing of a thesis based on original field research, library study or an educational project and its analysis and evaluation. May be repeated for credit.

599 Independent Graduate Research (1-3)

Prerequisite: consent of department. Individual research on either a field or a library study, with conferences with a project adviser as necessary, and resulting in one or more papers. May be repeated for credit.

ASTRONOMY

(Offered by the Department of Physics and the Department of Science and Mathematics Education) See departmental descriptions for the following courses:

Physics

300 Introduction to Astronomy (4)

415 Astrophysics (3)

Earth Science

350 General Astronomy (4)

DEPARTMENT OF BIOLOGICAL SCIENCE

FACULTY

Donald Bright

Department Chairman

Phillip Adams, Natalie Barish, L. Jack Bradshaw, Bayard Brattstrom, Jack Burk, Calvin Davenport, Linda Fagan, Ted Hanes, Michael Horn, Claris Jones, Charles Lambert, Miles McCarthy,* Lonnie McClanahan, Kenneth McWilliams, Steven Murray, Marvin Rosenberg, Alvin Rothman, James Smith, Donald Sutton, George Turner, David Walkington, Joel Weintraub, Jerome Wilson

PART-TIME (Special Lecturers in Medical Technology)

Norman Cadman; Ernest Courier; Margaret Gilbertson; Shinichi Hamashige; Thomas Jones; Thomas Johnson; Don Miyada; Jay Palmer; Charlene Rubey; Lorin Spencer.

The Department of Biological Science offers a program leading to the Bachelor of Arts in Biological Science for students preparing to enter graduate and professional schools, for those preparing to teach, and for those preparing for careers in industry and government service.

It is the conviction of the faculty in biological science that the purposes of all these students can best be served by building their curricula on a core of courses fundamental to the science of biology. This core curriculum includes biological principles, ecology, genetics, microbiology and molecular biology.

In considering the curricula beyond this core of subjects, the faculty has agreed that the interest and goals of individual students can best be satisfied through individual counseling rather than through prescribed programs. After discussion with their advisers, students will elect those upper division courses which will satisfy their individual interests and professional goals.

To qualify for a baccalaureate degree in biological sciences, students must have a C average in all required related courses. No credit toward the major will be allowed for biological science courses in which a grade D is obtained.

Advanced students will be permitted to enroll in Biological Science 480, Advanced Topics in Biology, and Biological Science 499, Independent Study. All full-time upper division students are expected to attend the departmental seminars.

The Department of Biological Science also offers a curriculum for students majoring in other fields who wish to minor in biology.

BACHELOR OF ARTS IN BIOLOGICAL SCIENCE

One hundred twenty-four units including general education (see page 67), foreign language, 36 units in biology courses, and supporting courses in physical sciences and mathematics. The supporting courses must include one year of inorganic college chemistry including qualitative analysis with laboratory, two semesters of organic chemistry with laboratory, one semester of college calculus, and one year of college physics with laboratory. ‡ An emphasis in medical technology is available to students majoring in biological science. Those who are interested in this emphasis should complete the core requirements plus Chemistry 420 and select their 14 units of electives from the following: Biological Science 423, 242, 445 and 462

^{*} University administrative officer

[‡] Those students seeking careers in biology at the Ph.D. level and careers in medicine should take a full year of organic chemistry, a year of analytical geometry and calculus, quantitative chemistry and laboratory, and obtain a proficiency in one modern foreign language or advanced courses in computational sciences.

Lower di	vision:	Units	Units
141	Principles of Botany	4	
161	Principles of Zoology	4	
		8	8
Upper di	ivision:		
Biologi	cal Science		
305	Molecular Biology	4	
312	Genetics Lecture	3	
316	Principles of Ecology	3	
320	General Microbiology	4	
	Electives—14 units, of which four must be		
	outside area of emphasis	14	
	beneficia a la piesti p el comune o disempe de mon protecto y miture a porrevo y combinato dos prevista est de diferencia e compañí la com	28	28
			36
Minimun	n Requirements for Biological Science Minor ‡		
Biologi	cal Science		
	161 Principles		8
404	Evolution or		
312	Genetics or 313 Human Genetics		3
320	General Microbiology		4
361	Mammalian Anatomy and Physiology		4
	Electives		4
			23

MASTER OF ARTS IN BIOLOGY

The program for this degree is based on the assumption that modern science necessitates broad preparation through the master's level of training. It permits breadth of preparation and at the same time concentration in an area such as botany, microbiology or zoology. In design it offers sufficient breadth and depth to strengthen the student's academic understanding and improve his competence for (a) advanced graduate work toward the doctoral degree in biological science, (b) teaching at all levels—elementary, secondary, and community college, (c) participating in research programs, (d) participating in various field service and conservation positions with both the state and national governments, (e) entering the field of public health service, and (f) technological work in the health sciences. An M.A. in Biology is available to students who are planning technological work in a clinical laboratory through the medical biology concentration.

Prerequisites

Prerequisites to classification in the M.A. in Biology program are as follows:

- A B.A. in Biological Science at Cal State Fullerton or other accredited institution with a gradepoint average of 3.0 in biological science and a GPA of 2.5 in the related sciences of mathematics, chemistry and physics.
- A study plan prepared in conference with the thesis adviser and submitted to the departmental graduate committee.
- 3. Acceptance by a thesis adviser.

Students with limited subject or grade deficiencies may be considered for admission to the program upon completion of nine units of postgraduate studies in biology, mathematics, chemistry or physics, with a GPA of 3.0. These courses will be selected in conference with the thesis adviser. Students

[‡] Those students seeking careers in biology at the Ph.D. level and careers in medicine should take a full year of organic chemistry, a year of analytical geometry and calculus, and quantitative chemistry with laboratory, and obtain a proficiency in one modern foreign language or advanced courses in computational sciences.

should complete the classification step as soon as they are eligible, since no more than nine units of graduate work taken before classification can be included on the study plan for the Master of Arts degree.

Advancement to candidacy for the M.A. in Biology will be granted after:

- 1. Completing 12 units of coursework on the study plan with a GPA of 3.0.
- 2. Thesis program selected and approved by student's thesis committee.
- Approval by departmental graduate committee upon recommendation from the thesis adviser and committee.

Study Plan

A student who meets the prerequisites may apply for classified graduate status. He must file a study plan including 30 units of adviser-approved graduate work, at least 15 of which must be at the 500-level. All study plans must include Biological Science 580, Advanced Graduate Topics in Biology, and Biological Science 598, Thesis, and at least one departmental seminar. Six units must be outside the principal area. Further electives may be possible. Required is a thesis or a published paper, or a paper accepted for publication, acceptable to the adviser and committee, covering a research problem. A final oral examination on the student's research is also required.

The program of study for the medical technology concentration will include the general requirements as shown above with the following modifications: the study plan must include adequate coursework in the paramedical sciences; and Biological Science 514A,B,C,D,E (taken at an affiliated hospital laboratory school).

Supervising the work of graduate students requires the personal attention of advisers. To insure that advisers are available for new graduate students, it is highly recommended that a graduate student complete the requirements for graduation within three years after classification.

Students who are graduate assistants should complete the classification step either prior to appointment or during their first semester of appointment. They must become classified before being reappointed.

For more detailed information or advisement, students should consult the chairman of the Biological Science Department, or the graduate program adviser of the Biological Science Department. See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

BIOLOGICAL SCIENCE COURSES

101 Elements of Biology (5)

An introduction to basic concepts in the study of living organisms and to the characteristics of the natural environment. (3 hours lecture, 6 hours laboratory)

102 Crisis Biology (3)

Presents to the student basic biological knowledge necessary for understanding our current environmental problems. With this information the ecology of man and his ecosystem is analyzed and crisis areas discussed.

141 Principles of Botany (4)

Emphasis will be placed on the dynamic aspects of botany although the traditional areas of morphology and classification will not be neglected. Required of all biology majors. (2 hours lecture, 6 hours laboratory)

161 Principles of Zoology (4)

An introduction to the principles of animal biology with special reference to the structure, classification, phylogeny, physiology, behavior and ecology of animals. Required of all biology majors. (2 hours lecture, 6 hours laboratory)

267 Insects and Man (3)

Insect biology and ecology; the effects of insects upon civilization past and present; control of insects and effects upon the environment; and the superiority of insects. (2 hours lecture, 3 hours laboratory)

305 Molecular Biology (4)

Prerequisites: one year of college biology; prior completion or concurrent enrollment in the second semester of organic chemistry. An introduction to the physical and chemical aspects of biological science including macromolecular synthesis and function as well as the biochemistry of subcellular activities. Topics include studies of modern data-gathering methods, organelle structure and function, bioenergetics, protein biosynthesis, and gene function at the molecular level. (2 hours lecture, 6 hours laboratory)

312 Genetics Lecture (3)

Prerequisite: one year of college biology or consent of instructor. The general principles and modern developments in the study of heredity. Course designed for biology majors: nonmajors see Bio Sci 313.

312L Genetics Laboratory (1)

Prerequisite: Bio Sci 312. The use of a variety of organisms and methods for exploring basic principles of genetics. (3 hours laboratory)

313 Human Genetics (3)

Prerequisite: Bio Sci 101 or equivalent. Principles of heredity with emphasis on methods of analysis, on interaction of genes and environment, and on gene populations in humans. (Same as Anthropology 313)

316 Principles of Ecology (3)

Prerequisite: one year of college biology or consent of instructor. A community approach to plant and animal systems. Environmental factors, biological cycles, community types and contemporary environmental problems are discussed. Students are provided with background for the advanced ecology courses. (3 hours lecture)

316L Principles of Ecology Laboratory (1)

Prerequisite: Bio Sci 316 (can be enrolled concurrently). Laboratory and field techniques used in ecological studies are taught. Student projects and one or more field trips required. (3 hours laboratory)

318 Marine Biology (4)

Prerequisite: one semester of college biology or equivalent, or consent of instructor. Physical and chemical aspects of the ocean as a background for the study of marine organisms and habitats, including food cycles, communities, identification, ecology, methods of collecting and preserving local marine algae, invertebrates, and fish. (3 hours lecture, 3 hours laboratory or fieldwork)

320 General Microbiology (4)

Prerequisites: one semester of college biology and one year of college chemistry, or consent of instructor. An introduction to the study of the morphology, growth, physiology and genetics of bacteria and other microorganisms. A consideration of the role of microorganisms as agents of change in natural processes. (2 hours lecture, 6 hours laboratory)

344 Plant Morphology (4)

Prerequisite: Bio Sci 141 or consent of instructor. A study of the modern concepts of plant morphology, including biochemical and morphogenetic considerations. (2 hours lecture, 6 hours laboratory)

352 Plants, Man and Life (3)

Prerequisite: Bio Sci 141 or consent of instructor. An examination of man's dependence upon and economic interest in plants throughout the world. Includes a discussion of the domestication of plants and the origin of agriculture. (3 hours lecture)

352L Plants, Man and Life Laboratory (1)

Prerequisites: Bio Sci 141, 452 or consent of instructor (may be taken concurrently). Includes a discussion of the manufacture and use of economically important plant derivatives. Many of these products will be manufactured and utilized as a portion of this course. (3 hours laboratory)

361 Mammalian Anatomy and Physiology (4)

Prerequisite: one year of college biology or consent of instructor. Study of the structure and function of the human organism. (2 hours lecture, 6 hours laboratory)

401 Biogeography (3)

Prerequisite: one year of college biology or consent of instructor. A study of the present day distribution of plants and animals based upon classification, fossil records, morphology, geography and consideration of current theories. (3 hours lecture)

403 Biosystematics (4)

Prerequisites: one year of college biology, and Bio Sci 316 or 404 and consent of instructor. An introduction to the principles and techniques of biosystematics, including evolutionary mechanisms, the species concept, taxonomic procedures and nomenclature. (2 hours lecture, 6 hours laboratory)

404 Evolution (3)

Prerequisite: one semester of college biology or zoology or consent of instructor. A study of evolution, including the history of evolutionary thought; origin of universe, earth and life; geological and paleontological history of the earth; evidences for evolution derived from comparative anatomy, embryology, genetics, zoogeography; mechanisms of evolution.

404L Evolution Laboratory (1)

Prerequisite: Bio Sci 404 (may be taken concurrently). (3 hours laboratory)

405 Developmental Biology (4)

Prerequisites: Bio Sci 305 or consent of instructor. Recommended either Bio Sci 312 or 464. Molecular and cellular processes involved in the development of organisms. The following areas will be considered in some depth: oogenesis, fertilization, cytokinesis-morphogenetic movements, nucleocytoplasmic interactions, genetic control of growth, differentiation and metamorphosis. (2 hours lecture, 6 hours laboratory—discussion)

406 Biometry (4)

Prerequisite: Math 120, 130, or 150A; upper division standing in biological sciences. Introduction to experimental design, interpretation, and practical application of statistics to biological problems.

(3 hours lecture, 3 hours laboratory)

410 General Cell Physiology (4)

Prerequisites: one year of college biology and one semester of organic chemistry or consent of instructor. Characteristics of life at the cellular level; processes by which the cell obtains energy and material and forms new cell substances; control of these processes by the cell; organization of structures and enzyme systems within the cell. (2 hours lecture, 6 hours laboratory)

412 Population Genetics (3)

Prerequisite: Bio Sci 312 or 313. Theory and literature of genetic change in populations, primarily one-locus: maintenance of genetic variability, inbreeding, drift, migration and selection treated singly and in combination. Estimation of genetic parameters. (3 hours lecture)

413 Molecular Genetics (3) (Formerly 513)

Prerequisites: Bio Sci 312, 305 and Chem 301A,B. The organization, replication and function of the genetic material and informational macromolecules in organisms from the viruses to the higher plants and animals. Topics include: chromosomal structure and function, recombination, mutagenesis, genetic coding, protein synthesis and genetic aspects of development. (3 hours lecture)

413L Molecular Genetics Laboratory (1)

Prerequisites: Bio Sci 305, 312, 320 and concurrent enrollment in Bio Sci 413. Designed to give experience in the basic techniques of molecular genetics, including isolation, characterization and function of the information macromolecules. (3 hours laboratory)

416 Limnology-Fresh Water Ecology (4)

Prerequisites: Bio Sci 141, 161, and Chem 101B. Comparative physical, chemical and biological characteristics of inland waters and estuaries. (2 hours lecture, 6 hours laboratory)

417 General Oceanography (3)

Prerequisites: Bio Sci 141 and 161, and Chem 101A,B (may be concurrent), Physics 211. Introduction to oceanography including the study of the extent of the oceans; the chemical nature of the sea; marine geology; causes and effects of currents and tides; and interrelationships of plants and animal life.

418 Biological Oceanography (4)

Prerequisite: Bio Sci 417. Biological factors of the marine environment; physiological and ecological relationships; methods of sampling, identification and analysis. (3 hours lecture, 3 hours laboratory)

419 Marine Ecology (4)

Prerequisites: upper division or graduate standing in biological sciences, and successful completion of Bio Sci 418 or 446 or 461. A course in the fundamentals of ecology embracing the aspects of the interrelations of organisms and their environment with emphasis on productivity, population dynamics, behavior and biological associations. (2 hours lecture, 6 hours laboratory)

423 Pathogenic Microbiology (4)

Prerequisite: one semester of microbiology or bacteriology. Study of the biology of infectious disease: mechanisms of microbial pathogenicity; host defenses; mode of action of antibiotics and other antimicrobial agents; characteristics of specific pathogenic bacteria, fungi and viruses. (2 hours lecture, 6 hours laboratory)

424 Immunology (4)

Prerequisites: Bio Sci 305, 320 and Chem 301A, or consent of instructor. A study of the cellular and molecular nature of the immune process. Emphasis is placed on the nature of antibodies and antigens, their role in immunity and the specificity of their reactions. Other topics, such as transplantation, immuno-chemistry and the immunology of neoplastic disease are discussed. The laboratory is designed to give the student a basic knowledge of the techniques of modern immunology. (2 hours lecture, 6 hours laboratory)

426 General Virology (2)

Prerequisites: Bio Sci 305, 312 and 320. A comparison of bacterial, animal and plant viruses. A detailed study of viral structure and host-virus interaction in the viral replication process.

426L General Virology Laboratory (2)

Prerequisite: prior completion or concurrent enrollment in Bio Sci 426. Experimental methods for studying bacterial and animal viruses, including techniques for growth and titration of infectious viral units and physical characterization of virus structures. (6 hours laboratory)

439 Microbial Ecology (4)

Prerequisites: Bio Sci 316 and one semester of microbiology or bacteriology. The interaction of microbes and their environment; the influence of physical and chemical factors on the distribution and activities of microbial populations; the effects of microbes on the living and nonliving environment. Basic principles of microbial enrichment, selection and succession. On completion of the basic experiments each student will select and perform a field and laboratory study in microbial ecology. (2 hours lecture, 6 hours laboratory)

441 Plant Taxonomy (4)

Prerequisite: Bio Sci 141 or consent of instructor. An introduction to the study of classification and evolution of vascular plants with an emphasis on the flowering plants. (2 hours lecture, 6 hours laboratory)

443 Plant Ecology (4)

Prerequisites: Bio Sci 316 and 441 or consent of instructor. A study of environmental factors and their effect upon plants and their distribution. Includes field experience and a survey of plant ecological literature. (3 hours lecture, 3 hours laboratory; field trips required)

444 Plant Physiology (4)

Prerequisites: Bio Sci 141 or equivalent and one semester of organic chemistry or consent of instructor. A study of plant growth, nutrition, food synthesis, and metabolism. (2 hours lecture, 6 hours laboratory)

446 Phycology (4) (Formerly Algology)

Prerequisite: Bio Sci 141 or consent of instructor. Biological aspects of marine and freshwater algae with an emphasis on comparative development, morphology, taxonomy and ecology. (2 hours lecture, 6 hours laboratory)

460 Protozoology (4)

Prerequisites: the student should have had general biology and zoology. For portions of the course an understanding of cellular physiology would be helpful. The biology of microbial acellular animals will be considered in lecture/discussion, primarily physiology, ecology, evolution and behavior. In the laboratory the emphasis will be on taxonomy, systematics and morphology. The student will be expected to participate in field trips. (2 hours lecture, 6 hours laboratory or fieldwork)

461 Invertebrate Zoology (4)

Prerequisite: Bio Sci 161, or a year of college biology or consent of instructor. Evolution, classification, physiological adaptations, and biology of invertebrate animals. Includes dissection, identification and observation of living animals. (2 hours lecture, 6 hours laboratory, or fieldwork)

462 Parasitology (4)

Prerequisite: one year of general biology or consent of instructor. A consideration of the symbiotic relationships existing at all levels of animal organization. Emphasis on the natural history, biology, physiology, ecology and laboratory recognition of symbiotic organisms. (2 hours lecture, 6 hours laboratory)

463 Comparative Vertebrate Anatomy (4)

Prerequisite: one semester of general zoology or biology or consent of instructor. A comparative study of the chordates, with emphasis on morphology and evolution of various organ systems from fish through mammals. Includes comparative dissection of numerous vertebrates. (2 hours lecture, 6 hours laboratory)

464 Embryology (4)

Prerequisite: a year course in general zoology or biology or consent of instructor. Study of development from gametogenesis through organogenesis. Laboratory work includes a study of selected vertebrate and invertebrate embryos. (2 hours lecture, 6 hours laboratory)

465 Animal Ecology (4)

Prerequisite: Bio Sci 316. A study of the factors that affect the distribution and abundance of animals. Emphasis on field techniques, statistical applications, and theoretical approaches. (2 hours lecture, 6 hours laboratory; one or more weekend trips per semester required)

466 Animal Behavior (3)

Prerequisite: one year of college biology or consent of instructor. An introduction to the current problems in animal behavior including sensory capacities, orientation, innate and learned patterns, and social behavior of invertebrates and vertebrates. (3 hours lecture)

467 Entomology (4)

Prerequisite: Bio Sci 161, or a year of college biology or consent of instructor. Anatomy, physiology, evolution, and biology of insects and other terrestrial arthropods. Laboratory includes detailed dissection, collection, identification, and observation of living arthropods. (2 hours lecture, and 6 hours laboratory or fieldwork)

468 Comparative Animal Physiology (4)

Prerequisites: principles of zoology, Chem 101A, 101B, and organic chemistry. A comparative survey of organ systems and physiological processes among invertebrate and vertebrate animals. (2 hours lecture, 6 hours laboratory)

469 Hematology (3)

Prerequisites: upper division standing and Chem 301A or equivalent. Theoretical and practical study of blood and hemopoiesis. Study of the functions and morphology of blood components in healthy and diseased states; hematological tests and factors affecting test reliability are included in the laboratory. (1 hour lecture, 6 hours laboratory)

474 Natural History of the Vertebrates (4)

Prerequisite: one semester of college biology or zoology, or consent of instructor. Natural history and ecology of the vertebrates including behavior, temperature and water regulation, migration and homing, echolocation, diving adaptations, venoms, color and coloration. Laboratory and field emphasis on observation, identification, behavior, ecology and distribution of the vertebrates of California. (2 hours lecture, 6 hours laboratory or fieldwork; one or more weekend trips per semester required)

475 Ichthyology (4)

Prerequisite: a year of college biology, or consent of instructor. The biology, structure, physiology, ecology, evolution and economic importance of fishes. Laboratory and field work in identification, collection, and natural history of fishes. (2 hours lecture, 6 hours laboratory or fieldwork per week; one or more weekend trips per semester required)

476 Herpetology (4)

Prerequisite: one semester of college biology, or zoology, or consent of instructor. The biology, structure, physiology, ecology, distribution, evolution, and behavior of amphibians and reptiles. Laboratory and fieldwork in identification, collection, study of amphibians and reptiles including studies on reptile and amphibian behavior and physiology. (2 hours lecture, 6 hours laboratory or fieldwork per week; one or more weekend trips per semester required)

478 Mammalogy (4)

Prerequisites: one semester of college biology, or zoology, or consent of instructor. The biology, structure, physiology, ecology, distribution, evolution and behavior of mammals. Laboratory and fieldwork in identification collection, and natural history of mammals. (2 hours lecture, 6 hours laboratory or fieldwork per week; one or more weekend trips per semester required)

480 Advanced Topics in Undergraduate Biology (1-3)

Prerequisites: upper division students majoring in biology with consent of instructor. Designed to consider current topics, updating of concepts, recent advances and unification of the principles of biology. May be repeated for credit.

499 Independent Study (1-3)

Open to qualified undergraduate students by consent of instructor with whom the student wishes to pursue independent study in biology. May be repeated for credit.

502 Seminar in Biology (3)

Open to graduate students only by consent of instructor. May be repeated for credit.

503 Seminar in Modern Concepts in Biology (3)

Investigation of major integrative themes in biological sciences and explore the ways in which these permeate all levels of biological thought. May be repeated.

505 Seminar in Molecular Biology (3)

Selected advanced topics in molecular biology, such as macromolecular structure, thermodynamics in biological systems and molecular regulation of cellular activities. Open to graduate students and other qualified students by consent of instructor. May be repeated.

510 Seminar in Physiology (3)

Selected topics within the area of physiology. Open to graduate students and other qualified students by consent of instructor. May be repeated.

512 Seminar in Genetics (3)

Selected advanced topics within the general area of genetics. Open to graduate students and to other qualified students only by consent of instructor. May be repeated.

514A Medical Hematology (1)

The study of normal and diseased cells. Includes theory and practice in hematological methods. (Lecture/laboratory)

514B Medical Biochemistry (2)

The chemistry of the body and body fluids in health and in disease. Includes basic and advanced techniques of biochemical and microscopic analyses. (Lecture/laboratory)

514C Blood Bank and Immunology (1)

Blood bank and pretransfusion procedures and problems; serological diagnosis. (Lecture/laboratory)

514D Medical Bacteriology (1)

The pathogenesis, diagnosis, and control of bacterial diseases. Includes the isolation and identification of pathogenic bacteria. (Lecture/laboratory)

514E Medical Mycology and Parasitology (1)

The photogenesis and control of fungus and parasitic diseases. Includes procedures for the identification of fungi and parasites. (Lecture/laboratory)

514F Topics in Medical Biology (1)

Prerequisites: graduate standing and consent of department. Selected areas of current research interest in medical biology will be discussed. May be repeated. (Seminar)

517 Seminar in Ecology (3)

Selected advanced topics within the general area of ecology. Open to graduate students and to other qualified students only by consent of instructor. May be repeated.

518 Seminar in Marine Science (3)

Selected advanced topics within the general area of marine science. Open to graduate students and to other qualified students, only by consent of instructor. May be repeated.

520 Seminar in Microbiology (3)

Selected topics in the areas of microbiology. Open to graduate students and other qualified students by consent of instructor. May be repeated.

524 Seminar in Immunology (3)

Selected topics in immunochemistry, immunobiology and medical immunology. Open to graduate students and other qualified students by consent of instructor. May be repeated.

540 Seminar in Botany (3)

Selected advanced topics within the general area of botany. Open to graduate students and to other qualified students by consent of the instructor. May be repeated.

560 Seminar in Zoology (3)

Selected advanced topics within the general area of zoology. Open to graduate students and to other qualified students by consent of the instructor. May be repeated.

580 Advanced Topics in Graduate Biology (1-3)

Prerequisites: graduate standing in biology with the consent of instructor. Designed to consider current research topics, experimental design and problem solving in biological systems. May be repeated for credit.

268 Chemistry

598 Thesis (1-3)

May be repeated for a maximum of 6 units of credit.

599 Independent Graduate Research (1-3))

Open to graduate students only by consent of instructor with whom the student wishes to pursue independent study in biology. May be repeated for credit.

MEDICAL BIOLOGY COURSES

(See departmental course descriptions for the courses listed below)

Biological Science

423 Pathogenic Microbiology (4)

424 Immunology (4)

426 General Virology (2)

426L General Virology Laboratory (2)

445 Mycology (4)

462 Parasitology (4)

468 Comparative Animal Physiology (4)

469 Hematology (4)

514A,B,C,D,E,F Medical Biology (6)

560 Seminar in Zoology (Hematology) (3)

598 Thesis (3)

599 Independent Graduate Research (3)

Chemistry

312 Quantitative Chemistry (4)

420 Clinical Chemistry (4)

421A,B General Biochemistry (3,3)

422A,B General Biochemistry Laboratory (2,2)

OCEANOGRAPHY COURSES

(See departmental course descriptions for the courses listed below)

Biological Science

325 Marine Biology (4)

420 General Oceanography (3)

421 Biological Oceanography (4)

426 Marine Ecology (4)

520 Seminar in Marine Science (3)

Earth Science

110 Introduction to Physical Oceanography (3

401 Studies in Geoscience, Geofluids (2-6)

DEPARTMENT OF CHEMISTRY

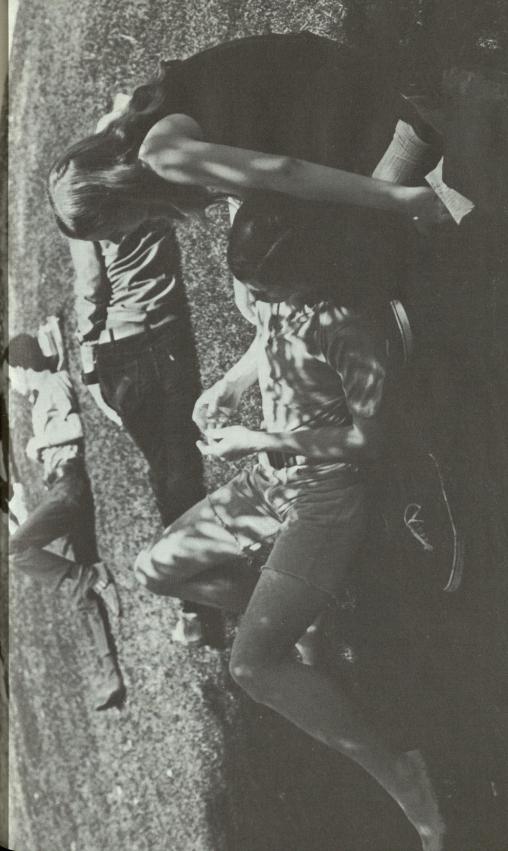
FACULTY

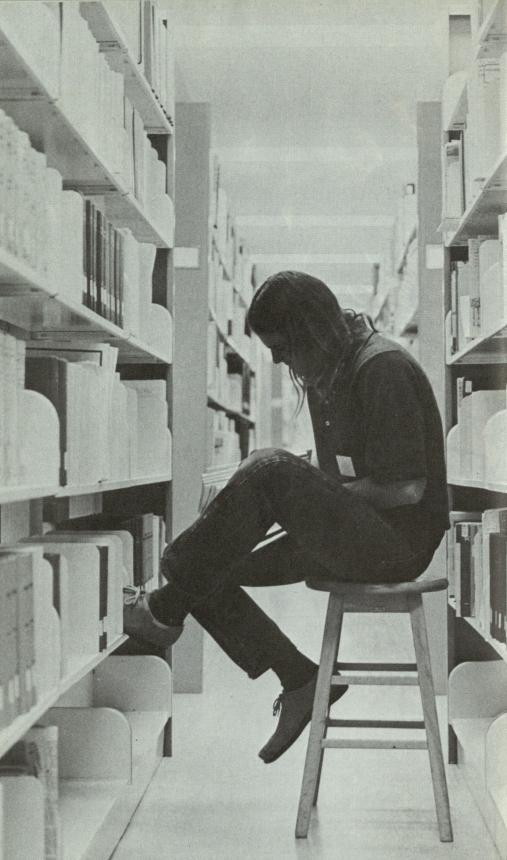
Carl Prenzlow

Department Chairman

David Bailey, Robert Belloli, John Bryden, Fred Dorer, J. Milton Harris, Gene Hiegel, Harvey Janota, William Langworthy,* Frances Mathews, Andrew Montana, L. Donald Shields,* Robert Spenger, Carl Wamser, Bruce Weber, Patrick Wegner, W. Van Willis, Dorothy Pan Wong

^{*} University administrative officer





The Department of Chemistry is on the approved list of the American Chemical Society.

The curriculum is planned to provide thorough instruction in the basic principles and concepts of chemistry for students who will (1) advance to graduate work in chemistry or biochemistry; (2) teach in the science programs of secondary schools; (3) seek employment in industry or government; (4) advance to medical or dental training or (5) pursue a chemistry minor in support of other science majors such as physics or biology.

To qualify for a baccalaureate degree in chemistry, students must have a C average in all courses required for the majors including those in the related sciences. A reading proficiency in one modern foreign language (Russian, German, French) is required. This requirement may be met by taking either four semesters of university or university foreign language or a course in scientific French, German or Russian. Under unusual circumstances the requirement may be met by examination upon approval by the department chairman. Examinations will be given in October and March of each academic year. For details of examination procedure, apply at the department office. A reading comprehension of a second modern foreign language is recommended for students planning graduate study leading to the Ph.D. degree.

No credit toward the major will be allowed for specific major courses in which a grade of D is obtained.

BACHELOR OF ARTS IN CHEMISTRY

The basic chemistry curriculum contains the minimum requirements for a B.A. in Chemistry and is suitable for those students who are candidates for professional schools as medicine, dentistry, etc. and secondary education. Chemistry majors intending to work in chemical industry or continue with graduate work in chemistry would generally take 6–10 additional units of upper division chemistry electives. Students may elect a curriculum based upon the recommendations of the Committee for Professional Training of Chemists of the American Chemical Society and upon completion of this program receive a Certificate of the American Chemical Society. This curriculum is the basic curriculum plus Instrumental Analysis (Chem 411) and at least one upper division chemistry elective.

Chemistry students interested in biochemistry may elect the biochemistry emphasis. This program differs from the basic chemistry curriculum and may be the chemistry program selected by those students who are candidates for professional schools in medicine, dentistry, etc. and graduate school in biochemistry or molecular biology.

The chemistry curricula have been designed to give the student a full understanding of the fundamental areas of chemistry and still allow him to tailor his program to his interests and goals. The student is urged to consult regularly with the chemistry faculty about his program.

Basic Chemistry Curriculum *

Required Courses in Chemistry	Units	Units
General Chemistry (101A,B)	10	
Organic Chemistry (305A,B)	10	
Quantitative Chemistry (312)	4	
Physical Chemistry (371A,B)	6	
Inorganic Chemistry (425)	3	
Physical Chemistry Lab (441) ¹	3	
Senior Research (495 or 499) ¹	4	
Total Units	40	
Related areas		
Physics (225A,B,C, 226 A,B,C) ¹	12	
Mathematics (150A,B, 250)	12	
Biology	4	
Total Units	28	
Total units in science and mathematics		68

^{*} Under unusual circumstances and with the approval of the department chairman, particularly when a student decides to become a chemistry major in his sophomore or junior year, the minimum requirements for a chemistry degree can differ from the above.
Requirements differ for the biochemistry emphasis.

272 Chemistry

General education units, not including 13 units of physical science, m general education requirements, page 67 Elective units ²		32 24
Total units for the B.A. in Chemistry		124
Chemistry Curriculum with a Biochemistry Emphasis *		
Bearing Courses in Chamistan	Unite	Units
General Chemistry (101A,B)	10	
Organic Chemistry (305A,B) 3	10	
Quantitative Chemistry (312)		
Physical Chemistry (371A,B)		
Biochemistry (423A,B, 422A,B)		
Senior Research (495 or 499)	2	
Total units	42	
Related areas (satisfies the general education requirement in natural and mathematics)	I science	
Physics (225A,B,C, 226A,B,C) 4	12	
Mathematics (150A,B, 250)		
Biology ⁵		
Total units	36	
Total units in science and mathematics		78
General education units, not including 13 units of science and mathem	natics	32
Elective units		14
Total units for the B.A. in Chemistry with biochemistry emphasis		124
MINOR IN CHEMISTRY		
A minimum of 24 acceptable units of chemistry, including 14 units o courses, excluding independent study, are required for a chemistry mi		emistry
Suggested Eight Semester Program for a Major in Chemistry		
First Semester (Freshman) Second Sem	nester (Freshman)	
Units		Ur
Chem 101A Gen Chem 5 Chem 101B Gen C	Chem	5
Math 150A Anal Geo and Calc 4 Math 150B Anal G	ieo and Calc	4
Eng 101 Composition and Lit 3 Physics 225A, 226A	Fund Physics	4
Gen education courses		
		ASTA BARRET

16

Fourth Semester (Sophomore)
Chem 305B Org Chem 5

Bio Sci 4

16

Third Semester (Sophomore)

 Chem 305A
 Org Chem
 5

 Math 250
 Inter Calc
 4

* Under unusual circumstances and with the approval of the department chairman, particularly when a student decides to become a chemistry major in his sophomore or junior year, the minimum requirements for a chemistry degree can differ from the above.

Students who are candidates for professional schools as medicine dentity, etc. or graduate school in biology may substitute.

Students who are candidates for professional schools such as medicine, dentistry, etc., or graduate school in biology may substitute Physics 211A,B (8 units). This substitution is not preferable for students who are candidates for graduate school in chemistry or biochemistry.

² Generally includes 6–10 units of upper division chemistry units. In some cases, a student may substitute biology, mathematics, or physics courses from an approved list for these upper division electives.

³ Students who are candidates for professional schools as medicine, dentistry, etc., or graduate school in biology may substitute Chemistry 301A,B, 302A,B (8 units). This substitution is not preferable for students who are candidates for graduate school in chemistry or biochemistry.

⁵ Includes 4 units of lower division biology and 8 units of upper division biology or related areas as approved by adviser.

Chem 101A Gen Chem5	Chem 101B Gen Chem5
Math 150A Anal Geo and Calc 4	Math 150B Anal Geo and Calc 4
Eng 101 Composition and Lit	Physics 225A, 226A Fund Physics 4
Biology4-5	Eng 102 Lit and Composition
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as an abundar ass table Franchise at the action as	F. th Samuelan (Sambamana)
Third Semester (Sophomore)	Fourth Semester (Sophomore)
	Fourth Semester (Sophomore) Chem 305B Org Chem5
Chem 305A Org Chem 5	
Chem 305A Org Chem	Chem 305B Org Chem
Chem 305A Org Chem 5 Math 250 Inter Calc 4 Physics 225B, 226B Fund Physics 4 General education courses 3	Chem 305B Org Chem 5 Physics 225C, 226C Fund Physics 4 Bio Sci 3-4 General education courses 3
Chem 305A Org Chem 5 Math 250 Inter Calc 4 Physics 225B, 226B Fund Physics 4 General education courses 3	Chem 305B Org Chem 5 Physics 225C, 226C Fund Physics 4 Bio Sci 3-4 General education courses 3
Chem 305A Org Chem 5 Math 250 Inter Calc 4 Physics 225B, 226B Fund Physics 4 General education courses 3	Chem 305B Org Chem 5 Physics 225C, 226C Fund Physics 4 Bio Sci 3-4 General education courses 3

274 Chemistry

Fifth Semester (Junior)	Units	Sixth Semester (Junior)	Units
Chem 371A Physical Chem	3	Chem 371B Physical Chem	3
Chem 312 Quant Chem	4	Biology	
General education courses	9	General education courses	
	16	ophics *	15
Seventh Semester (Senior)		Eighth Semester (Senior)	
Chem 423A, 422A Molec Biochem	5	Chem 423B, 422B Molec Biochem	. 5
General education courses	4	Chem 495 (or Chem 499)	2
Electives	6	General education courses	9
	15		16

MASTER OF ARTS IN CHEMISTRY

The master of Arts in Chemistry is designed to qualify students for more advanced work in chemistry, to provide preparation which will lead to responsible positions in industrial or government research and development laboratories, and to provide preparation for the effective teaching of chemistry in the high schools and community colleges.

The program provides fundamental courses at a level and depth commensurate with those taken during the first year of a doctoral program and provides an introduction to research and research methods.

Prerequisites

Students to be admitted to the program must:

- Meet the general prerequisites for graduate work formulated and recommended by the university.
- 2. Have a baccalaureate degree from an accredited institution.
- 3. Have an undergraduate major in chemistry with a grade-point average of 3.0 or better in chemistry courses taken, and a 2.5 GPA in all other previous university work.
- 4. Have had enough specialized elective courses in chemistry to give a minimum of 24 units of upper division chemistry, including at least one course which has three years of chemistry as a prerequisite.

The major in chemistry should have included in the undergraduate program a year-course in each of the following fields: general chemistry, analytical chemistry, organic chemistry, and physical chemistry. The course in physical chemistry should have included laboratory work.

Qualifying examinations, administered by the department three times a year, are required of all students entering the program. Qualifying examinations are required in the areas of physical and organic chemistry, plus two from the areas of analytical, inorganic or biochemistry. The results of these examinations will be used to advise the student in developing his study plan. A student may be classified with certain subject deficiencies, but such deficiencies must be removed before advancement to candidacy either (1) by committee-approved coursework with a grade of B or better, or (2) by passing the next qualifying examination. Proficiency in reading chemical literature in one approved foreign language (e.g., German, French or Russian) must be demonstrated before advancement to candidacy.

Study Plan

The degree program consists of 30 units of committee-approved course work completed with a minimum grade-point average of 3.0, including at least 15 units of 500-level chemistry courses. The following courses are required of all students:

		Units
Chem 505	Seminar in Chemistry	2
Chem 599	Independent Graduate Research	3 (minimum)
Chem 598	Thesis	1-2

Each student is also required to take two 500-level courses other than those listed above (minimum total of 15 units 500-level required).

In order to insure sufficient breadth and background, each student is required to take one course from each of the following groups if he has not passed (with a B or better) equivalent courses as an undergraduate. However, courses taken as an undergraduate cannot be applied to the 30 units required for graduation.

	Unit
Group I—Chem 411 Instrumental Analysis	. 4
Chem 425 Inorganic Chemistry	. 3
Group II—Chem 423A Molecular Biochemistry	3
Chem 431 Advanced Organic Chemistry	3
Group III—Chem 451 Quantum Chemistry	3
Chem 450 Advanced Physical Chemistry	. 4

Elective courses, to be taken with the approval of the adviser, must include a minimum of six units outside the student's area of specialization and a minimum of nine units (in addition to the minimum of three units of Chem 599, as above) in one of the following areas of specialization, including related areas as approved by the committee.

- 1. Analytical chemistry
- 2. Biochemistry
- 3. Inorganic chemistry
- 4. Organic chemistry
- 5. Physical chemistry

For further details or advisement, please refer to the graduate adviser of the Chemistry Department. See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

CHEMISTRY COURSES

100 Introductory Chemistry (4)

Prerequisite: one year of high school algebra. Fundamental principles of chemistry with emphasis placed on the chemistry of inorganic compounds. Does not apply as credit for majors in the physical or biological sciences or for minors in the physical sciences. (3 hours lecture, 3 hours laboratory)

101A,B General Chemistry (5.5)

Prerequisites: high school algebra and either high school chemistry or high school physics or Chemistry 100. High school physics and trigonometry strongly recommended. Intended for majors and minors in the physical and biological sciences.

A—The fundamental principles of chemistry including stoichiometry, gas laws, solid and liquid states, changes of state, modern atom concepts, chemical bonding and chemical equilibrium with emphasis on quantitative acid-base chemistry. Laboratory: experiments applying elementary physical chemistry and volumetric quantitative analysis. (3 hours lecture discussion, 6 hours laboratory)

B—Oxidation-reduction chemistry, introduction to chemical thermodynamics and chemical kinetics, discussions of the chemistry of representative and transition elements, and introductions to biochemistry, organic and nuclear chemistry. Laboratory: experiments concerning gravimetric and volumetric quantitative analysis, selected topics in qualitative analysis and inorganic preparations. (3 hours lecture discussion, 6 hours laboratory)

105 General Chemistry for Engineers (3)

Prerequisite: Chemistry 101A. Description the same as Chemistry 101B. Open only to engineering majors. Not open to students with credit in Chemistry 101B.

201 Modern Physical Science (4)

(See course description under Physical Science)

205 Glassblowing (1)

Elementary training in the manipulation of glass leading to the construction of scientific glass apparatus. Enrollment limited with preference given to junior and senior physical science majors. (4 hours laboratory)

301A,B Organic Chemistry (3,3)

Prerequisite: Chemistry 101B or equivalent. Chemistry 301B must involve concurrent enrollment in Chemistry 302B or 302X. A course in organic chemistry designed for the non-chemistry major. Emphasis is placed on modern theories of structure and reaction mechanism. Recommended for biology majors and students planning to enter a paramedical profession.

302A,B Organic Chemistry Laboratory (1,1)

Chemistry 302A (3 hours laboratory) must be taken concurrently with Chemistry 301A. Chemistry 302B (3 hours laboratory) must be taken concurrently with Chemistry 301B. A course designed to give training in the basic techniques of the organic chemistry laboratory, including synthesis of typical aliphatic and aromatic compounds. Students wishing to fulfill all of their organic chemistry laboratory requirement in a single semester should enroll in Chemistry 302X.

302X Organic Chemistry Laboratory (2)

Prerequisite: Chemistry 301A or equivalent. Chemistry 302X (6 hours laboratory) must be taken concurrently with 301B. A course designed to give training in the basic techniques of the organic chemistry laboratory, including synthesis of typical aliphatic and organic compounds.

305A,B Organic Chemistry (5,5)

Prerequisite: Chemistry 101B or equivalent. A comprehensive course in organic chemistry designed for the chemistry major. Emphasis in lecture and laboratory is placed upon modern theories of structure and reaction mechanism with applications of modern instrumental and spectroscopic methods. (3 hours lecture discussion, 6 hours laboratory)

309A,B Fundamentals of Physical Chemistry (2,2)

Prerequisites: Chemistry 101B, Mathematics 150B and one year of college physics. A short course in physical chemistry presenting topics in thermodynamics, kinetics, non-electrolyte and electrolyte solution theory, changes of phase and related subjects with special applications to the life sciences. Does not fulfill major requirements for chemistry majors. (2 hours lecture)

312 Quantitative Chemistry (4)

Prerequisites: Chemistry 101A,B (grade C or better) and at least one semester of organic chemistry lecture and laboratory Physics 211A,B or Physics 221A,B strongly recommended. Modern analytical chemistry including contemporary separation methods, nonaqueous quantitative chemistry, and introductions to instrumental methods of analysis in electrochemistry, absorption spectroscopy, and radiochemistry. (2 hours lecture discussion, 6 hours laboratory)

351 Introduction to Biochemistry (4)

Prerequisites: Chemistry 301B and five units of biology. A survey of the chemistry and metabolism of proteins, carbohydrates, lipids, hormones, in plants, animals and microorganisms. (3 hours lecture discussion, 3 hours laboratory)

371A,B Physical Chemistry (3,3)

Prerequisites: Mathematics 250, one year of physics and Chemistry 101B. Chemistry 312 recommended. Equivalent courses may be substituted. A study of the fundamental laws and theories of chemistry. Thermodynamics, solutions, chemical and phase equilibria, electrochemistry, transport phenomena, introduction to atomic and molecular structure, rotation and vibration spectroscopy, statistical mechanics, kinetics are the major topics discussed. Discussions with emphasis on the use of fundamental principles to solve problems.

403 Analysis of Organic Compounds (4)

Prerequisites: Chemistry 305A,B and 312 or equivalents. Isolation and identification of organic compounds using chemical and instrumental techniques. (2 hours lecture discussion, 6 hours laboratory)

411 Instrumental Analysis (4)

Prerequisites: Chemistry 312, 301A,B, 371A,B and one year of college physics. Advanced topics in absorption and emission spectroscopy, nuclear magnetic resonance, electron spin resonance, mass spectrometry, gas chromatography, X-ray methods, electrochemistry and radiochemistry. (2 hours lecture discussion, 6 hours laboratory)

420 Clinical Chemistry (4)

Prerequisite: Chemistry 351 or equivalent. Principles of biochemistry and analytical methods applied to physiological fluids. This course cannot apply to the major in chemistry.

421A,B General Biochemistry (3,3)

Prerequisite: Chemistry 301B or equivalent. Survey of major areas of biochemistry, including chemistry and functions of compounds of biochemical interest. Course emphasizes bio-organic mechanisms. Not applicable for a chemistry major.

422A,B General Biochemistry Laboratory (2,2)

Prerequisites: concurrent or prior enrollment in Chemistry 421A,B or 423A,B. Laboratory designed to illustrate the chemistry and metabolism of carbohydrates, nucleic acids, lipids, and proteins, to introduce techniques of enzyme chemistry and isolation, and to introduce the student to research methods. (6 hours laboratory)

423A,B Molecular Biochemistry (3,3)

Prerequisites: Chemistry 305B, 312 and concurrent or prior registration in 371A. Recommended for chemistry majors. Survey of major areas of biochemistry, with emphasis on the structural chemistry and function of biomolecules, mechanisms of enzyme action and physical chemical approaches to the study of biopolymers and biochemical systems. Readings from current literature required.

425 Inorganic Chemistry (3)

Prerequisites: Chemistry 101A,B or equivalent and Chemistry 301A,B and 371A,B. A comprehensive inorganic chemistry course with an introduction to modern theories of chemical bonding and structure. Theoretical treatments include molecular orbital and ligand field theory with their extensions, coordination and transition metal chemistry, various aspects of nonmetal chemistry and a discussion of hydride properties.

427 Preparative Techniques

Prerequisites: Chemistry 312, 301A,B and 425 (concurrent enrollment acceptable) or equivalents. Laboratory exercises using advanced techniques and modern methods for the preparation and identification of chemical compounds. Readings in the current literature required.

431 Advanced Organic Chemistry (3)

Prerequisites: Chemistry 301A,B, 371A and 371B. Theoretical aspects of organic chemistry with emphasis on the modern concepts of structure and chemical reactivity.

Physical Chemistry Laboratory (3)

Prerequisite: Chemistry 371A.B. Laboratory exercises illustrating the physical principles of chemistry. (1 hour lecture discussion, 6 hours laboratory)

450 Advanced Physical Chemistry (4)

Prerequisite: Chemistry 371A,B or equivalent. An advanced study of classical thermodynamics followed by an introductory study of statistical mechanics and chemical kinetics.

Quantum Chemistry (3)

Prerequisite: Chemistry 371A,B. An introduction to the application of quantum mechanics. Postulates and theories approximation methods, the electronic structure of atoms and periodic system, molecules and the chemical bond, and introduction to group theory.

472 X-Ray Crystallography (4)
Prerequisites: Physics 221A,B, Mathematics 250, and Chemistry 301A,B, or equivalent courses. Morphological crystallography, crystal symmetry and crystallographic groups, X-rays and X-ray diffraction, the recording and interpretation of diffraction phenomena, and the analysis of crystal structures, including computer applications. (3 hours lecture, 3 hours laboratory)

495 Senior Research (1-3)

Prerequisites: three one-year courses in chemistry and senior standing. Must have consent of supervising instructor before enrollment. Open only to students with a 3.0 grade point average in chemistry. An introduction to the methods of chemical research through a research project carried out under the supervision of one of the Chemistry Department faculty. May be repeated for credit.

499 Independent Study (1-3)

Prerequisites: upper division standing and completion of two one-year courses in chemistry. Study of some special topic in chemistry, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

505 Seminar (1-2)

Prerequisites: graduate standing and consent of department. Student presentations of recent contributions to the chemical literature. May be repeated for credit.

511 Theory of Separations (3)

Prerequisites: Chemistry 312, 301A,B, 371A,B. The theory, application, and limitations of physical and chemical separation techniques.

512 Electroanalytical Chemistry (4)

Prerequisites: Chemistry 312, 301A,B, 371A,B. Advanced topics in potentiometry, amperometry, electroanalysis, coulometry, conductometry, polarography, single and multiple sweep voltammetry, chronopotentiometry and chronoamperometry.

525 Radiochemistry (4)

Prerequisite: Chemistry 371A,B. Introduction to the theory of nuclear properties and phenomena; their detection and measurement; application of their technology to chemical experimentation.

528 Coordination Chemistry (3)

Prerequisite: Chemistry 425 or equivalent. A concise treatment of the structure and bonding in coordination compounds according to crystal field, molecular orbital, and ligand field theories is included, as well as preparative methods and a survey of ligand substitution kinetics. The theoretical models will be related to spectral, thermodynamic, kinetic and redox properties. Biochemical and industrial uses of coordination compounds will be discussed.

31 Theoretical Organic Chemistry (3)

Prerequisites: Chemistry 431 and 550. The application of theoretical concepts to current topics of physical organic chemistry research.

535 Organic Synthesis (3)

Prerequisites: Chemistry 301A,B or 305A,B and 371A,B (concurrent enrollment acceptable). Methods of synthetic organic chemistry and their application to construction of organic molecules. Recent developments covered.

539 Chemistry of Natural Products (3)

Prerequisite: Chemistry 301B. Selected topics from the chemistry of the alkaloids, terpenes, steroids and a variety of other natural products of plant and animal origin. Discussions included on the classification, structure elucidation, synthesis, biosynthesis and physiological activity of these compounds.

540 Chemistry of Proteins and Nucleic Acids (3)

Prerequisite: Chemistry 421B or 423B or consent of instructor. Chemical synthesis of macromolecules, physical and chemical methods of determining the primary, secondary and tertiary structure, theories of structural organization and macromolecular interactions, macromolecular evolution.

541 Enzyme Chemistry (3)

Prerequisite: Chemistry 421B or 423B or consent of instructor. Discussion of the structure and chemical modification of enzymes and mechanisms and kinetics of enzyme catalyzed reactions.

542 Intermediary Metabolism (3)

Prerequiste: Chemistry 421B or 423B or consent of instructor. A discussion of metabolic and biosynthetic pathways and physiological control mechanisms.

551 Quantum Mechanics (3)

Prerequisite: Chemistry 451. Elementary applications. Perturbation theory, collision problems, relativistic theory of the electron, theories of valence, complex compounds and complex crystals.

555 Chemical Kinetics (3)

Prerequisite: Chemistry 450 or consent of instructor. Analysis of reacting systems; theories of chemical kinetics; discussion of gas phase, liquid phase and surface reactions including recent developments.

561 Statistical Thermodynamics (3)

Prerequisite: Chemistry 450 or equivalent. A study of statistical mechanics and its application to chemical problems.

575 Theory of Spectroscopy (3)

Prerequisite: Chemistry 451 or equivalent. Group theory, symmetry mode, intensities and selection rules, selected topics from electronic spectra of atoms and molecules, UV, IR, NMR, ESR and Raman spectroscopy.

580 Topics in Advanced Chemistry (1-6)

Prerequisite: graduate standing in chemistry. Selected areas of current research interest in chemistry will be discussed. May be repeated for credit.

598 Thesis (1-2)

Prerequisites: an officially appointed thesis committee and advancement to candidacy. Guidance in the preparation of a project or thesis for the master's degree.

599 Independent Graduate Research (1-6)

Prerequisite: graduate standing in chemistry. May be repeated for credit.

DEPARTMENT OF CHICANO STUDIES

FACULTY

Robert Serros

Department Chairman

Carlos Durón, Dagoberto Fuentes

BACHELOR OF ARTS IN THE CHICANO STUDIES OPTION OF ETHNIC STUDIES

This degree program is designed to provide an effective vehicle for meeting a variety of needs in contemporary higher education. These are extending opportunities for university education to students who have long been under-represented due to cultural differences between their experiences and the cultural emphasis of higher education; providing for personal consultation between faculty and students of diverse cultural backgrounds; revising curriculum and promoting research to give all students and faculty an understanding of the interaction of ethnic groups in past and contemporary civilizations; and conducting continuous research in innovative teaching methods and courses to create more effective means of teaching students in a culturally pluralistic environment.

CHICANO STUDIES OPTION

The required minimum for the major is 36 units: Chicano Studies 106, 102 * or 103 * and 200 and 6 additional units from the lower division offerings and a minimum of 24 units in upper division courses.

The purposes of the Chicano studies option are to provide a specialization in Chicano studies within the framework of a more generalized and comprehensive ethnic studies perspective; to provide greater flexibility and more electives within the ethnic studies program to meet the variety of needs and interests of the diverse group of students selecting this major; to acquaint students with the problems, successes, and failures of California's largest minority group; to help students understand the nature of contemporary ethnic and social turmoil and guide them into constructive modes of thought about current issues; to enable students to see the brown experience in America in a world setting; to enable students to lead more effective lives in a culturally pluralistic and rapidly changing society; and to prepare students to work more effectively in Spanish-speaking areas.

Required

- 106 Introduction to Chicano Studies (3)
- *102 Communication Skills (3)
- *103 Communication Skills (3)

Core courses (9 units required)

- 213 Spanish for the Spanish Speaking (3)
- 214 Spanish for the Spanish Speaking (3)
- 215 Chicano Creative Writing (3)
- 218A Survey of Chicano Culture (3)
- 218B Survey of Chicano Culture (3)
- 220 Mexican Heritage (3)

Lower division electives (3 units required):

- 101 Introduction to Ethnic Studies (3)
- 120 Bilingual Oral Expression (3)
- 237 Mexican and Chicano Literature in Translation (3)

Upper division electives (a minimum of 24 upper division units from the following courses):

- 300 Barrio Conversational Spanish (3)
- 302 Ancient Mexican Culture (3)
- 305 The Chicano Family (3)
- 306 Barrio Studies (3)
- 307 Barrio Studies (3)
- 320 Chicano Art (3)

^{*} Students can be exempted from Chicano Studies 102 and/or 103 by an examination and/or the consent of department.

280 Chicano Studies

- Main Trends in Spanish-American Literature (3) 336
- Contemporary Chicano Literature (3) 337
- 340 Sociology of the Chicano (3)
- Cultural Differences in Mexico and Aztlán (3) 403
- Mexican Arts and Mexican Society (3) 411
- Chicano Music Appreciation (3) 415
- 420 Spanish for the Elementary School Teacher in the Barrio (3)
- 421 Economics of the Chicano (3)
- Canción de la Raza (3) 430
- The Chicano Child (3) 431
- The Chicano Adolescent (3) 432
- Mexican Literature since 1940 (3) 433
- 434 Counseling Chicano Students (3)
- Directed Research and Studies in Chicano Schools (3) 435
- 440 Mexican Intellectual Thought (3)
- 441 Religion in the Chicano Society (3)
- History of the Chicano (3) 445
- The Chicano and Contemporary Issues (3) 450
- The Chicano and Nativism (3) 452
- 453 Mexico since 1906 (3)
- 460 The Chicano and Politics (3)
- Independent Study (1-3) 499

MINOR IN CHICANO STUDIES

The minor in Chicano studies consists of 24 units in the following areas:

Lower division

- 106 Introduction to Chicano Studies (3)
- 200 Chicano Movement (3)
- 220 Mexican Heritage (3)

Upper division

- 430 Canción de la Raza (3)
- 445 History of the Chicano (3)
- 453 Mexico Since 1906 (3)

Approved electives

Six units of approved coursework in upper-division Chicano studies to be selected with approval of an adviser

CHICANO STUDIES COURSES

101 Introduction to Ethnic Studies (3)

A survey of the basic concepts and problems involved in an examination of the perspective through which black and brown people have come to see themselves in terms of their own heroes, culture and contributions to societies in which they live and world society in general.

102 Communication Skills (3)

A methodical presentation of the basic communication skills emphasizing writing and communication skills stressing the use of idioms, proper pronunciation, intonation and correct English patterns of thought.

103 Communication Skills (3)

Prerequisite: Chicano Studies 102 or consent of department. A methodical presentation of the basic communication skills emphasizing writing and communication skills stressing the use of idioms, proper pronunication, intonation and correct English patterns of thought.

106 Introduction to Chicano Studies (3)

A study of the role of the Chicano in the United States. Special emphasis on the Chicano's cultural values, social organization, urbanization patterns, and the problems in the area of education, politics and legislation.

120 Bilingual Oral Expression (3)

Recommended: Chicano Studies 102 and/or 103. Designed to train the bilingual Chicano in the process of oral expression in English and barrio Spanish. Pertinent topics will be selected in the areas of education, law enforcement and contemporary issues for bilingual oral expression.

213 Spanish for the Spanish-Speaking (3)

A methodical presentation of the Spanish language as it is spoken in the United States today. The first part of the course is designed to improve the basic communication skills in Spanish for students from Spanish speaking backgrounds; emphasis on vocabulary building, syntactical analysis and conversation. Designed for Chicano students but not restricted to them.

214 Spanish for the Spanish-Speaking (3)

Prerequisite: Chicano Studies 213. Designed to enhance further the communication skills in Spanish of the Spanish-speaking student. The second part of the course will emphasize written expression. Designed for Chicano students but not restricted to them.

215 Chicano Creative Writing (3,3)

Chicano creative writing utilizing the barrio's trilingual expressions. Student work as well as the work of contemporary Chicano writers will be analyzed.

218A,B Survey of Chicano Culture (3)

A survey of the Chicano's cultural heritage from the pre-Cortesian period to the present. A historical analysis of the music, literature, art and dance of the Chicano. A—Literature and art. B—History, music and dance.

220 Mexican Heritage (3)

Introduction to the basic characteristics of the Mexican and especially the Chicano society and culture and its ramifications in the United States today. The survey course covers the period of 1519 to the present day. Special emphasis is placed on the arts, literature, and history of Mexico and the Chicano in the United States.

237 Mexican and Mexican-American Literature in Translation (3)

A survey course in Mexican and Chicano literature in English. Special emphasis will be given to presenting the point of view of the Chicano. Panel discussions will emphasize the exposure of students to the ideas of Mexcian and Chicano literature as seen through the eyes of the Chicano.

300 Barrio Conversational Spanish (3)

Analysis of the Caló language of the southwestern states of the United States. Students will study the bicultural language of the Chicanos, origin, development, and contemporary use in the barrios.

302 Ancient Mexican Culture (3)

A historical and cultural survey of the principal pre-Columbian cultures of Mexico and their significance for Mexican society.

305 The Chicano Family (3)

The Chicano family development as an American social institution. Historical and cross-cultural perspectives. The socio- and psychodynamics of the Chicano family.

306 Barrio Studies (3)

Prerequisites: Chicano Studies 101 and/or 220 or consent of instructor. Students are given classroom instruction covering the major characteristics of the barrio. Supervised fieldwork in the barrio is required. An analysis of the barrio or agency will be made after fieldwork is completed. (2 hours lecture, 3 hours fieldwork)

307 Barrio Studies (3)

Prerequisite: Chicano Studies 306. Students are given classroom instruction covering the major characteristics of the barrio and are then supervised in their fieldwork in the local barrios. An analysis of the barrio or agency will be made after fieldwork is completed. (2 hours lecture, 3 hours fieldwork)

320 Chicano Art (3)

An overview of Mexican art forms from pre-Cortesian epochs to the contemporary artists, with emphasis on the use of oil painting techniques as employed by modern Mexican and Chicano artists.

336 Main Trends in Spanish American Literature (3)

An introduction to the main currents of Spanish American literature emphasizing contemporary works. Close attention will be given to the relation between the artistic expression and the ideological values of the period.

337 Contemporary Chicano Literature (3)

Prerequisite: any of the following: Chicano Studies 101, 106, 220, or 237, or consent of instructor. A study of the modern Chicano writers in the United States. Special emphasis will be given to Allurista, Corky Gonzales, Octavio Romano, El teatro campesino and the major Chicano magazines and newspapers.

340 Sociology of the Chicano (3)

Prerequisites: Chicano Studies 101 or 106, 220, or consent of instructor. A general survey of the field. Sociological perspectives of Chicano culture and social structure, including background, present nature, and changing patterns.

403 Cultural Differences in Mexico and Aztlán (3)

A study of the cultural conflicts in Mexico as seen by the contemporary thinkers of Mexico and the United States. Special emphasis will be given to the urban and rural problems.

411 Mexican Arts and Mexican Society (3)

Study of the ways in which Mexican artists, architects and designers have reacted to the political, social and artistic developments in Mexico and the world.

415 Chicano Music Appreciation (3) (Formerly 232)

A survey of Mexican music ranging from the pre-Cortesian period to the present in Mexico and in the southwestern states of the United States. The history and music are presented by lectures and recordings.

420 Spanish for the Elementary School Teacher in the Barrio (3)

Designed to improve the oral expression of teachers in the barrio elementary schools. Special emphasis will be given to the language patterns of the Chicano students and their parents.

421 Economics of the Chicano (3)

A study of the Chicano and his socioeconomic situations. Special emphasis will be placed on contemporary economic problems in immigration, agriculture, business, industry, and crafts.

430 Canción de la Raza (3)

Prerequisite: reading knowledge of Spanish. Survey and analysis of the Nahuatl, Mexican and Chicano literature from the pre-Columbian period to the present. The latter part of the course will focus on contemporary Chicano writers.

431 The Chicano Child (3)

Study of the Chicano child from preschool through grade six. The course will emphasize motor, physical, social, intellectual and emotional growth and development and their effect on school adjustment and achievement. Observation of preschool and grade school children will be arranged.

432 The Chicano Adolescent (3)

A survey of the Chicano adolescents' social, intellectual, and emotional growth and development. Special emphasis will be placed on the bicultural pressures from the barrio, family structure, school and achievement values.

433 Mexican Literature since 1940 (3)

An in-depth study and analysis of the literature of Mexico since 1940. Emphasis will be placed on the works of Carlos Fuentes, Luis Spota, Rodolfo Usigli, Xavier Villaurrutia, Juan Jose Arreola, Octavio Paz, Roberto Blanco Moheno and Luis G. Basurto.

434 Counseling the Chicano Student (3)

Definition of problems of the Chicano student. Review of proposed methods of motivational counseling and analysis relevant curriculum.

435 Directed Research and Studies in Chicano Schools (3)

Supervised research and study of Chicano schools. Special emphasis will be placed on curriculum, library materials, and teaching techniques of the schools of the barrio and of classes with a high percentage of Chicano students.

440 Mexican Intellectual Thought (3)

Recommended: a reading knowledge of Spanish and Chicano Studies 237 and 302. A study and discussion of the emergence of the Chicano movement dealing with political, economic, and sociological facets. This course analyzes the writings of the Nahuatl, Spanish, Spanish-American and Chicano writers. Special attention will be focused on the contemporary writers.

441 Religion in the Chicano Society (3)

Prerequisites: Chicano Studies 220, and/or consent of instructor. A comparative study of American Protestant and Mexican Catholic thought and their influence on the values held by Anglos and Chicanos. Special emphasis will be placed on the contemporary issues.

445 History of the Chicano (3)

History of the Chicano from the pre-Columbian period to the present. Special emphasis on the Chicano's changing role in the United States, his cultural identity crisis, and his achievements.

450 The Chicano and Contemporary Issues (3)

Analysis and discussion of the socioeconomic and political problems confronting the Chicano, with emphasis on proposed solutions. Particular focus will be placed on the effect that social institutions have had on the Chicano community. Study and research will be made in these areas.

452 The Chicano and Nativism (3)

A study of nativism and the Chicano. Special emphasis is placed on Anglo-Chicano relationships as well as immigration law and practices.

453 Mexico Since 1906 (3)

Prerequisite: upper division class standing. A study of the Mexican Revolution of 1910 stressing the political, economic, and social features of this period. Special emphasis will be given to the Revolution and its contributions in the fields of art, music, literature and social reforms.

460 The Chicano and Politics (3)

Theory of urban politics and evaluation of issues that affect the Chicanos and American society. Evaluations and surveys will be made on political organizations in the Hispanic-surnamed communities.

499 Independent Study (1-3)

Prerequisites: senior level and approval by the department chairman and the professor(s) in charge of directing the study. An opportunity to do independent study under the guidance of the department, of a subject of special interest to the student.

DEPARTMENT OF COMMUNICATIONS

FACULTY

J. William Maxwell

Department Chairman

James Alexander, Fenton Calhoun, Raynolds Johnson, Martin Klein, Mary Koehler, George Mastroianni, Wayne Overbeck, Marvin Rosen, Ted Smythe

The program leading to the Bachelor of Arts in Communications emphasizes study of broad principles of communications, functions of the mass media in a democratic society, and theories relevant to informing, instructing, and persuading through communications media. It may serve as preparation for careers in mass media, business, industry, government and education; and as a preparation for graduate and professional schools.

The department offers a major in communications with emphases in advertising, journalism, photocommunications, public relations, technical communication, and telecommunication. A special emphasis designed to meet the needs and interests of individual students may also be arranged.

A master of arts program in Communications provides advanced study in communications and related disciplines for those seeking professional careers in teaching, research and development, and mass media.

Programs in the department are designed to provide both theory and practice in the use of print, broadcast and film media of communication to inform, instruct and persuade.

BACHELOR OF ARTS IN COMMUNICATIONS

Every student must take 21 units of core courses and a minimum of 15 units in one of the emphases offered by the department. Additionally, the student must complete 12 units of collateral courses specified for the emphasis selected, although some flexibility may be permitted upon advisement. The major totals 48 units.

(COMMUNI	CATIONS CORE	Units
	Com 101	Communications Writing	3
	Com 102	Communications Writing	3
	Com 333	Mass Communication in Modern Society	3 ~

284 Communications

284 Communications	
Com 407 Communication and the Law	3
Com 425 History and Philosophy of American Mass Communication	3
Com 410 Principles of Communication Research	3
Com 426 World Communication Systems	3
Com 427 Current Issues in Mass Communication	3
EMPHASES FOR COMMUNICATIONS MAJORS	
Every communications major must select an area of emphasis and complete the courses	in it.
ADVERTISING	
Emphasis Requirements	Units
Com 218A Introduction to Photography	2
Com 353 Advertising Copy and Layout	3
Com 354 Retail Advertising	3
Com 356 Advertising Production (1,1)	2
Com 439 Mass Media Internship	2
Com 451 National Advertising Campaigns	3
Collateral Requirements	
Art 103 Two-Dimensional Design	3
Engl 303 The Structure of Modern English	3
Phil 310 Ethics	3
Mktg 351 Principles of Marketing	3
JOURNALISM TO THE PROPERTY OF	
Emphasis Requirements	Units
Com 218A Introduction to Photography	2
Com 218B Communications Photography	2
Com 332 Copy Editing and Makeup	3
Com 335 Reporting of Public Affairs	3
Com 338 Newspaper Production	3
Com 439 Mass Media Internship	2
Collateral Requirements	
Soc 341 Social Interaction.	3
Engl 462 Modern British and American Novels	3
Hist 476 Age of Power, Affluence and Anxiety Since 1945	3
and one of the following:	
Pol Sci 300 Contemporary Issues in California Government and Politics	3 3
Pol Sci 413 Pressure Groups and Public Opinion	endone
* PHOTOCOMMUNICATIONS	
Emphasis Requirements	Oim.
Com 218A Introduction to Photography	2
Com 218B Communications Photography	2
Com 220A Color Photography	2
Com 306 Photographic Production	2
Com 338 Newspaper Production	3
Com 358A Publications Production	2
Com 439 Mass Media Internship	2
Collateral Requirements	
Pol Sci 300 Contemporary Issues in California Government and Politics	3
Amer Stu 301 The American Character	3

^{*} Photocommunications students who wish to emphasize film should take Com 218A, 311, 375, 411, 439 and 485.

Communications	285
Art 338A Creative Photography	3
Geo 365 Conservation of the American Environment	3
PUBLIC RELATIONS	
Emphasis Requirements	Units
Com 218A Introduction to Photography	2
Com 361 Theory and Principles of Public Relations	3
Com 439 Mass Media Internship	2
Com 463 Public Relations Methods	3
and one of the following:	3
Com 338 Newspaper Production	11103
Com 358A Publications Production	2
SEC. Promoving College Manager 1999	2
Collateral Requirements	HEACH
Art 103 Two-Dimensional Design	3
Engl 334 Shakespeare	3
Spch 334 Persuasive Speaking	3
Pol Sci 413 Pressure Groups and Public Opinion	3
* TECHNICAL COMMUNICATION	
Emphasis Requirements	Units
Com 332 Copy Editing and Makeup	3
Com 334 Feature Article Writing	3
Com 401 Report Writing	
Com 403 Technical Writing	3
Com 404 Advanced Specialized Writing and Editing Techniques	3
Collateral Requirements	
Phys 211A Elementary Physics	4
Phys 211B Elementary Physics	4
QM 361 Business and Economic Statistics	3
QM 364 Computer Logic and Programming	3
† Telecommunication	
Emphasis Requirements	Units
Com 370 Retail retails and Public Affairs	3.
COM 300 INTRODUCTION TO KAGIO AND TELEVISION	3
Com 390 Introduction to Telecommunications Production	3
Com 439 Mass Media Internship	2
Com 475 Telecommunications Programming	3
Collateral Requirements	Ass radio
Engl 322 American Literature from Twain to the Moderns	3
Soc 341 Social Interaction	3
Pol Sci 410 Political Parties	3
Hist 476 Age of Power, Affluence and Anxiety Since 1945	3
Special Emphasis	
Students whose interests involve more than one emphasis may seek approval of a special el	mnhasis

Students whose interests involve more than one emphasis may see Minimum requirements for the special emphasis are the same as for other emphases: 15 units of coursework in communications, at least 12 of which will be in upper division courses; 12 additional units of collateral course work in other departments; and approval of the special emphasis plan in advance by the Department of Communications.

^{*} Required collateral units may exceed 12 for this emphasis to include additional mathematics and science. In such cases, variations in the core requirements will be arranged through advisement so that the major will not exceed 48 units. † Telecommunication students who wish to emphasize film in broadcasting should take Com 290A or 290B, 311, 375, 411 and 439.

MINOR IN COMMUNICATIONS

Twenty-one units approved by the department are required for a minor in communications. The following is a recommended minor sequence emphasizing writing and publication courses.

Lower Division (maximum of 7 units)	Units
Com 101 or 102 Communications Writing	3
Com 218A Introduction to Photography	2
Com 218B Communications Photography	2
Upper Division (minimum of 14 units)	
Com 331 Analyzing News Communication	3
Com 333 Mass Communication in Modern Society	3
Com 338 Newspaper Production	3
Com 358A Publications Production	2
Com 425 History and Philosophy of American Mass Communication	3

TEACHER CREDENTIAL REQUIREMENTS

The Department of Communications offers major and minor programs approved as academic by the State Board of Education for those seeking an elementary or secondary teaching credential. For advisement, consult the Department of Communications. Because of anticipated changes in credential requirements due to the Ryan Act, students should consult an adviser in the department regarding the specific steps involved in completing credential requirements.

SECONDARY

Communications majors who are secondary teacher candidates should complete the communications core and journalism emphasis, including Communications 358A,B; have a minor approved by the Communications Department chairman; and fulfill professional education course requirements beyond those of the major and minor. (See "Journalism Education," page 290)

Elementary and Intermediate

The program of courses for elementary and intermediate teachers follows.

Emphasis Re	equirements	Units
Com 331	Analyzing News Communication	3
Com 333	Mass Communication in Modern Society	3
Com 361	Theory and Practice of Public Relations	3
Com 375	The Documentary Film	3
	Introduction to Radio and Television	3
Com 425	History and Philosophy of American Mass Communication	3
Com 426	World Communication Systems	3

Elect 15 units from appropriate communications courses in consultation with adviser (may include a project, Com 499, for three units).

Collateral Requirements

Engl 303	Structure of	Modern	English	3
FI				

Elect nine additional units from appropriate courses in consultation with adviser.

MASTER OF ARTS IN COMMUNICATIONS

The Master of Arts in Communications is designed to provide advanced study in communications and related disciplines and to develop a research emphasis or option related to the processes and effects of communications. These options are: advertising, journalism education, news, photocommunication, public relations, technical communication, or telecommunication.

Students completing the Master of Arts in Communications with an emphasis in journalism education research are eligible for journalism teaching positions in high school or community college.

Prerequisites

Students must possess a baccalaureate degree and have completed a basic core of courses in communications as prerequisites to the M.A. program. Before admission to classified graduate status, students must achieve satisfactory scores on the Graduate Record Examination Aptitude Test.

Study Plan

Students are required to complete 30 units of approved study, including 18 units in graduate level communications courses and six units in related studies. Six of the 18 units of graduate-level courses are applicable to the thesis or project requirement. In addition, students must satisfy a "collateral field requirement" in a related discipline.

For further information, consult the Department of Communications. See also "The Program of Master's Degrees," page 71 and the *Graduate Bulletin*.

COMMUNICATIONS COURSES

100 Introduction to Communications (3)

A survey of the mass media and their relationship to society today.

101 Communications Writing (3)

An introductory course covering principles of reporting and writing, with emphasis on content organization, conciseness, and clarity. Typing ability required.

102 Communications Writing (3)

Prerequisite: Communications 101 or consent of instructor. Concentration on reporting and writing of more advanced material. Typing ability required.

103 Applied Writing (3)

Principles and practice in organizing and preparing letters, reports, documents, and proposals required in most occupations. Designed especially for non-communications majors.

218A Introduction to Photography (2)

Introduction to photographic theory and the application of photographic principles. Students are encouraged to provide their own adjustable cameras. (1 hour lecture, 3 hours laboratory)

218B Communications Photography (2)

Prerequisite: Communications 218A or consent of instructor. Application of photographic principles to the requirements of mass communications. Students are encouraged to provide their own adjustable cameras. (1 hour lecture, 3 hours laboratory)

220A Color Photography (2)

Prerequisite: Communications 218A. Basic color photography covering the elementary chemistry and physics of the color processes, the processing of negative and positive color films, and making color prints.

290A,B History and Aesthetics of Motion Pictures (3,3)

History and development of the motion picture as an art form and social force. A—the motion picture from its origins until 1945. B—the contemporary cinema from 1945 to present. (Same as Theatre 290A,B)

301 Writing for Telecommunication (3)

Prerequisites: Communications 380 (or concurrent enrollment) and Communications 101. An introduction to theory and principles of writing employed in the broadcast and film media.

303 Business Communications (3)

Design and implementation of communications systems for various business enterprises. Utilizes graphic analysis and analytical techniques. Includes practice in producing messages and channeling them to avoid ambiguities.

306 Photographic Production (2)

Prerequisites: Communications 218A,B or consent of instructor. Production of photographs for university publications and television programs. Application of photocommunication principles to media problems under deadline conditions. (1 hour lecture, 3 hours laboratory)

311 Introduction to Motion Picture Production (3)

Prerequisite: Communications 218A or equivalent or consent of instructor. Introduction to theory and practice of motion picture photography and film production. (2 hours lecture, 3 hours laboratory)

331 Analyzing News Communications (3)

Analyzing news and other informational materials to assess their influence on the public, especially children. Oriented to teachers and teacher candidates, particularly those at the intermediate or elementary level.

332 Copy Editing and Makeup (3)

Prerequisites: Communications 101 and 102, or consent of instructor. Practice and theory of editing informational materials for publication in newspapers and magazines. (6 hours activity)

333 Mass Communication in Modern Society (3)

Basic structure and interrelationships of newspapers, magazines, films, radio, and television, in terms of their significance as social instruments and economic entities in modern society.

334 Feature Article Writing ((3)

Nonfiction writing for newspapers and magazines, including study of sources, methods and markets. Open to non-majors.

335 Reporting of Public Affairs (3)

Prerequisites: Communications 101 and 102, or consent of instructor. Coverage in depth of significant events pertinent to operations of governmental units and related organizations.

338 Newspaper Production (3)

Prerequisite: consent of instructor. A lecture and activity course in which members of the class constitute the editorial staff of the university newspaper. The group meets four hours per week for critiques in news reporting, writing, editing and makeup, followed by production. With consent of instructor, the course may be repeated for a maximum of nine units of credit. (More than 9 hours laboratory)

353 Advertising Copy and Layout (3)

Writing of copy and layout of advertisements, based on study of sales appeals, attention factors and illustrations. (6 hours activity)

354 Retail Advertising (3)

Principles and procedures of retail advertising; utilization of mass media; supervised field assignments in the analysis of specific advertising needs.

356 Advertising Production (1)

Preparation of advertisements for the university newspaper and magazine. Advertising accounts assigned to each student. Weekly critique sessions. Individual consultation with instructor. (5 hours laboratory)

358 Graphic Communications (3)

A lecture/activity class covering basic principles of graphic communication. Areas studied include printing processes, publication formats, copy preparation, copy-fitting techniques, layout principles, paper selection and distribution methods. (1 hour lecture, 4 hours activity)

359 Magazine Production (2)

Prerequisite: Communications 358 or consent of instructor. A production class for development of student publications, including the university magazine, authorized by appropriate university authorities. Activities include writing articles, editing copy, taking photographs and preparing layouts. (More than 6 hours laboratory)

361 Theory and Principles of Public Relations (3)

Examination of the social, psychological, philosophical, economic and political foundations of public relations, as well as the theories and principles of public relations as a communications discipline.

371 Radio-Television News and Public Affairs (3)

Prerequisites: Communications 101 and 380 (or concurrent enrollment). Theory and practice of covering news events and public affairs for radio and television. (6 hours activity)

375 The Documentary Film (3)

Purpose, development, current trends, critical analysis and production requirements of the documentary film. Future of the medium in business, government, education and television.

380 Introduction to Radio and Television (3)

(Same as Theatre 380)

381 Broadcast Advertising (3)

Study of television and radio as advertising media. Planning advertising campaigns, costs and coverage. (2 hours lecture, 3 hours laboratory)

390 Introduction to Telecommunications Production (3)

Prerequisite: Communications 380. Basic theory and practice of radio and television program production. (2 hours lecture, 3 hours laboratory)

401 Report Writing (3)

Planning, organizing, and writing of reports for business, education and government. Practice will be given in use of graphic aids and preparation of copy for reports that are to be printed. Recommended for non-majors.

403 Technical Writing (3)

Study of uses of technical writing in industry, science and engineering and completion of written assignments designed to test understanding of, and provide experience with, various forms.

404 Advanced Specialized Writing and Editing Techniques (3)

Writing and editing of material for reports, proposals, special publications and journals.

407 Communication and the Law (3)

The Anglo-American concept of freedom of speech and press; statutes and administrative regulations affecting freedom of information and of publishing, advertising and telecommunication. Libel and slander, rights in news and advertising, contempt, copyright and invasion of privacy.

410 Principles of Communication Research (3)

Survey of research methods used to assess the effects of print, broadcast and film communications on audience attitudes, opinions, knowledge and behavior. Basic concepts of research design and data analysis in communications research.

411 Advanced Motion Picture Production (3)

Prerequisite: Communications 218A, 311 or consent of instructor. Advanced theory, procedures and practice in film production. Motion picture (silent and sound), script writing, transfer and mixes; production, distribution and financing.

425 History and Philosophy of American Mass Communication (3)

American mass communication, beginning with newspapers and periodicals and continuing through radio and television. Includes ideological, political, social and economic aspects.

426 World Communication Systems (3)

Major mass communication systems, both democratic and totalitarian, and the means by which news and propaganda are conveyed internationally.

427 Current Issues in Mass Communication (3)

Mass media regulation by the government, "objective" versus "interpretive" news reporting and ethical and legal questions of particular cases.

428 Communications and Social Change (3)

The impact upon contemporary society of American mass media and mass communications.

439 Mass Media Internship (2)

According to his emphasis, the student serves a supervised internship with organizations such as a newspaper or magazine publisher, radio or television station, press association, public relations firm or an advertising agency. Application for internships must be made through the department coordinator one semester prior to entering the internship program.

451 National Advertising Campaigns (3)

Advanced study of advertising campaigns and utilization of mass media—such as television, newspapers, and magazines—in national advertising programs. Design of complete campaign.

463 Public Relations Methods (3)

Prerequisite: Communications 361 or consent of instructor. Techniques used for effective public relations in both personal and mass communications.

465 International Public Relations (3)

Public relations principles applied to international operations, both private and public.

467 Public Relations for Educational Institutions (3)

Prerequisite: Communications 361 or consent of instructor. Theory and practice of public relations applied to public and private schools. Methods, policies, programs and problems inherent in educational public relations.

473 Telecommunications Regulation (3)

Prerequisite: Communications 380. Self-regulation, governmental regulation and international regulation of broadcast programming.

475 Telecommunications Programming (3)

Prerequisite: Communications 380. Theory and practice of programming for television and radio.

477 Telecommunications Station Management (3)

Prerequisite: Communications 380. Management functions and policies of broadcasting stations and networks. Effects of government, public opinion, employee groups and ownership. Technical, legal, financial and other obligations.

479 Advanced Telecommunications Production (3)

Prerequisite: Communications 390 or consent of instructor. Advanced techniques in producing television-radio programs. (2 hours lecture, 3 hours laboratory)

485 Film Production (3)

Prerequisites: Communications 311, 375 and 411 or consent of instructor. Fundamentals of documentary film production planning and execution. Students prepare complete films in teams. (2 hours lecture, 3 hours laboratory)

490 Film Theory (3)

Prerequisites: Communications 290A and/or 290B or equivalent or consent of instructor. Analytical and comparative study of theories relating to film-making; nature of the film medium.

499 Independent Study (1-3)

Prerequisite: consent of department chairman. Individually supervised mass media projects and research on campus and in the community. May involve newspaper and magazine publishers, radio and television stations and public relations agencies. May be repeated.

500 Theories of Communication (3)

Theoretical study of communication processes in terms of source, media, message, audience and context variables. Review of research on the effects of communications on audience attitudes, opinions, knowledge and behavior.

502 Theories of Instructional Communication (3)

Theories of learning, persuasion, and instruction applied to the design of instructional communications. Study of human factors in the design, development and evaluation of such media as textbooks, programmed workbooks, training films and videotapes, recordings, and audio-tutorial and interactive training systems.

503 Practicum of Instructional Communication (3)

Principles of programmed instruction applied to achieve training objectives through the use of the media of communication. Includes development and empirical tryout of short programs in print, film, and/or broadcast media utilizing behavioral analysis of typical audiences to assess program effects.

510A Seminar in Communication Research (3)

Prerequisites: Communications 410 or equivalent, 500 and 501, 503 or 512 (or concurrent enrollment). Principles of research design and analysis applied to the study of communication processes and effects.

510B Advanced Seminar in Communication Research (3)

Prerequsite: Communications 510A. Problems in theoretical, applied and evaluative research in communication.

512 Graduate Seminar in Journalism Education (3)

Study of selected problems in journalism education with emphasis on individual research.

597 Project (3 or 6)

Completion of a creative project in the area of concentration beyond regularly offered coursework.

598 Thesis (3 or 6)

Completion of a thesis in the area of concentration beyond regularly offered coursework.

599 Independent Graduate Research (1-3)

Prerequisite: consent of department chairman. Individually supervised mass media projects or research for graduate students. May be repeated.

JOURNALISM EDUCATION COURSES

442 Teaching Journalism in the Secondary School (2)

Prerequisites: Education 411, 340, admission to teacher education, or consent of instructor. The student without teaching experience must register concurrently in Education 449. Theory and technique of advising school newspaper and yearbook staffs and teaching journalism. Relation of classroom instruction to staff assignments. See page 199 under Secondary Education for description of Standard Teaching Credential program.

499 Independent Study (1-3)

Prerequisite: consent of department chairman. Individually supervised projects relating to journalism education.

749 Student Teaching in Journalism in the Secondary School and Seminar (6) See page 208 for description and prerequisites.

COMPARATIVE LITERATURE PROGRAM

The program in comparative literature is an interdisciplinary program directed by the Committee on the Program in Comparative Literature. The committee is responsible for formulating curricular policies, approving courses, and advising students. The chairman of the English Department administers the program, and the courses are taught by faculty from the English Department and other departments whose courses are approved by the committee.

BACHELOR OF ARTS IN COMPARATIVE LITERATURE

The major in comparative literature provides professional competence and personal enrichment for students with an exceptional concern and appreciation for the study of the interrelationships between the languages and literatures of various civilizations. The program offers courses in literary form and content, theory and philosophy, genres and movements, providing insight into the backgrounds of mankind's worldwide culture and literatures. The comparative literature courses are conducted in English and required reading is available in English.

Upper Division Requirements

- 1. Eighteen units selected from courses listed under comparative literature.
- Three units from any adviser-approved 400-level course offered by the Foreign Language and Literatures Department provided it is not taught in translation. This requirement can be met through examination.
- 3. Six units selected from literature courses listed under English and numbered 300 or above.
- 4. Six units of anthropology, history, art history, music history or philosophy approved by the adviser and aimed at enlarging total perspective.
- 5. The remainder of required units selected from any 300- or 400-level literature course in comparative literature, English, French, German, Italian, Russian, or Spanish.

Distribution

- Of these 42 units, 15 must span the chronological range of the literary continuum, one in each
 of the following literary periods: Classical or Medieval; Renaissance; Neoclassical or Baroque;
 Romantic; Contemporary (1850–).
- 2. One course in a literary genre.
- One course in a major figure.
 It should be noted that (2.) and (3.) can perform the dual function of also satisfying (1.) (i.e.,
 a senior seminar in Hugo would satisfy both the major figure and the Romantic Period requirements).

More detailed information on the comparative literature major can be obtained from the brochure available in the Department of English office. The importance of close consultation with an adviser cannot be stressed enough for comparative literature, since the diversity of language specialties and other factors may necessitate individual tailoring in any given case.

MASTER OF ARTS IN COMPARATIVE LITERATURE

The objectives of the master's degree program in comparative literature are to promote the understanding of other literatures, peoples, and cultures in various historical periods, including the present, and to prepare the student for more advanced work in comparative literature, leading to the Ph.D. degree. The program also prepares teachers of world literature in the high schools and community colleges and provides a liberal arts background preparation for library studies. In addition to fulfilling all general prerequisites for graduate work established at Cal State Fullerton, the applicant, in order to gain admission to the program, must meet the following criteria:

1. Possession of a baccalaureate degree from an accredited institution.

2. An undergraduate major in comparative literature, English or foreign language with a GPA of 3.0 or better in the major courses and a GPA of 2.5 in all other college and/or university work. If the student's degree is in another field, he must have completed a total of 24 units of upper division work in comparative literature, English or foreign language, with a GPA of 3.0.

292 Comparative Literature

3. Satisfactory completion of a written examination in an approved foreign language, or satisfactory completion of an upper division course taught in an approved foreign language.

Study Plan

Required are 30 units of coursework completed with a minimum GPA of 3.0, to be distributed as

lows:	Units
1. A minimum of 18 units in 500-series courses:	
Comparative Literature 510, Graduate Seminar: Theory and Method of Comparative Literature	3
	12
A course at the 500 level in a related area	3
1865年18月1日 - 1868年 - 1865年 - 1	_
Total	18
2. Upper division courses:	
Adviser-approved courses in comparative literature	6
(At least 3 units of related coursework must be in foreign literature, read in the	6
original language.)	
	_
Total	12
1	1. A minimum of 18 units in 500-series courses: Comparative Literature 510, Graduate Seminar: Theory and Method of Comparative Literature

At the conclusion of his coursework, the student will take a written comprehensive examination for the master's degree. The examination may be waived if the student completes a thesis.

For further information, consult the Department of English.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

COMPARATIVE LITERATURE COURSES

(Offered by the Department of English)

202 Short Story (3)

(Same as English 202)

305 The Hebrew Prophets (3) (Same as Religious Studies 333)

312 The Bible as Literature (3)

A comprehensive survey of Biblical literature emphasizing intrinsic literary qualities as well as the influence of major themes of both Old and New Testament writings upon Western literary traditions

314 The Oral Tradition in Literature (3)

A study of storytelling as an art, particularly as developed through the media of the folktale.

315 Classical Mythology in World Literature (3)

The origins, elements, forms and functions of classical mythology in works from the earliest times to the present.

316 Celtic and Germanic Mythology (3)

A basic study of the principal Celtic and Germanic myths with some discussion of literary and archeological relationships.

317 Indic Mythology (3)

A survey of the mythologies embodied in the Mahabharata, the Ramayana, the Vedas and the Sathapatha Brahmana of India, and in the Abast, Avesta, and Shah Namah of Persia, and their relation to the principal mythologies of Europe.

318 Baltic and Slavic Mythology (3)
A study of the principal myths of the Balts and Slavs and their relation to the Indo-European inheritance.

319 African Mythology (3)

A study of the principal myths of sub-Saharan Africa, together with their reflections in African art and custom

320 Greek and Roman Literature (3)

Readings in English translation from the literature of classical Greece and Rome.

324A Advanced World Literature (3)

Selected readings in Indian, Chinese, Japanese, Middle Eastern and European literature from the beginning to 1650.

324B Advanced World Literature (3)

Selected readings from Oriental and Western literature from 1650 to the present.

332 Medieval Literature of Western Europe (3)

Selected readings in modern English translation from the medieval literature of England and the continent from St. Augustine to Sir Thomas Malory.

333 Literature of the Renaissance (3)

Major phases of the Renaissance as a literary movement, from Erasmus to Montaigne and Cervantes.

352 African Literature (3) (Same as English 352)

360 Irish Literature (3)

Selected writings representative of Irish literature from the early Middle Ages to the present.

371A,B The French Tradition (3)

A comprehensive survey of French Literature from the Renaissance to present times. The first semester will include the novel, short story and essay; the second semester will cover drama and poetry.

373 Masters of Russian Literature (3)

Reading, discussion, and interpretation of selected works by Pushkin, Dostoyevsky, Tolstoy, Chekhov, Pasternak, and others, and their relationship to Western literature.

374 Modern Russian Literature (3)

A study of literary trends and representative works of Russian writers from Maxim Gorky to the present times. Special consideration of the Soviet literary theory and its impact upon their literature. Lectures and readings in English.

375 Hispanic Literature (3)

A study of selected translations from Hispanic literature and their relations to world literature. Readings in the picaresque novel, Cervantes, Golden Age drama, Galdos, Unamuno, Lorca.

376 Main Trends in Spanish-American Literature (3)

An introduction to the main currents of Spanish-American literature, emphasizing contemporary writers such as Alegria, Asturias, Borges, Fuentes, Neruda. Close attention will be given to the relation between the artistic expression and the ideological values of the same period.

402 Art, Literature, and the Development of Consciousness (3)

(Same as Interdisciplinary Center 402)

403 The Quest for Self: East and West (3)

(Same as Interdisciplinary Center 403)

404 The Nature of Love: Plato to Joyce (3)

(Same as Interdisciplinary Center 404)

405 Psychoanalysis and Drama (3) (Same as Interdisciplinary Center 405)

425 Indian Literature (3)

A study of selected works of Indian literature.

426 Chinese and Japanese Literature (3)

A study of selected translations of Chinese and Japanese literature.

427 Modern Japanese Fiction (3)

A study of major writers and literary movements in 20th-century Japanese fiction.

430 Persian and Arabian Literature (3)

A survey course on the nature and distribution of the classics of western Asia in English translation, with lectures, readings and discussion.

445 Literature of the Americas: Contemporary Novelists (3)

A study of the interdependency of the contemporary fiction of North and South America. It focuses on direct influences, such as Hemingway's and Faulkner's on Latin American writers, and Borges' influence on North American writers. It also examines several parallels in techniques and themes as they reflect relationships in and between the Northern and Southern cultures.

450 The Naturalists (3)

A study of naturalism in the works of Turgenev, Balzac, the brothers Goncourt, Maupassant, Zola, Huysmans, Ibsen, Verga; and also the works of Gissing, Moore, Hardy, Garland, Crane, Norris, Dreiser, London and O'Neill.

453 The Novel in France and Germany (3)

Reading, discussion, and interpretation of outstanding novels in translation with a view toward determining some principles of the narrative arts. Emphasis on Goethe, Stendhal, Flaubert, Mann, Kafka, Proust and others.

454 Contemporary Movements in European Literature (3)

A study of modern literary movements, including naturalism, realism, symbolism, expressionism and surrealism, with reading and discussion of selected examples.

457 The Experimental Novel (3)

A study of contemporary novels, including examples of surrealism and the *nouveau roman*, as well as other novels not readily classified.

458 The Spanish Novel (3)

A study of major Spanish novels in translation.

473A,B World Drama (3,3)

Reading, discussion and interpretation of great plays of the world in translation, emphasizing them as literature for performance. First semester from ancient Greece through the mid-19th century; second semester, from Ibsen to the present.

482 Senior Seminar: Major Writers (3)

Directed research and writing, group discussion, and lectures involving intensive study of major writers. The student should consult his adviser and the schedule of classes for the sections available. This course number may be repeated with different content for additional credit.

483 Senior Seminar: Special Studies in Comparative Literature (3)

Directed research and writing, group discussion, and lectures devoted to significant periods, movements, and themes in world literature. The student should consult his adviser and the schedule of classes for the sections available. This course number may be repeated with different content for additional credit.

491 Senior Seminar: Greek Tragedy (3)

Fifth century Greek tragedy through the extent works of Aeschylus and Sophocles, and 10 plays of Euripides. (Same as Theatre 492)

491 Senior Seminar: Realism (3)

The theory, the origins, and the development of realism.

492 Literature of Action in 20th-Century France (3)

(Same as French 492)

492 German Literature in Translation (3)

(Same as German 492)

499 Independent Study (1-3)

510 Graduate Seminar: Theory and Method of Comparative Literature (3)

Introduction to the theories and methods of comparative literature and the problems of translation.

550 Graduate Seminar: Medieval Literature (3)

As appropriate to the specialized research and publication of the instructor, this course offers directed research and writing, group discussion and lectures, concerning the literature of Western Europe during the Middle Ages. Special problems as the development of medieval narrative, the growth and development of the Arthurian legend, lyric poetry, allegory and devotional literature.

551 Graduate Seminar: The Renaissance and Baroque (3)

Comparative investigation of a theme, genre, or major figures in western literature for the Renaissance and Baroque Period. Directed research and writing, group discussions, independent study. Since the topic each year will vary, depending upon the specialized interests and publications of the instructor, this course number may be repeated with different content for additional credit.

552 Graduate Seminar: Neoclassicism (3)

553 Graduate Seminar: Romanticism (3)

554 Graduate Seminar: Studies in the Modern Period (3)

571 Graduate Seminar: The Novel (3)

As appropriate to the specialized interests and publication of the instructor, this course offers directed research and writing, group discussion, and lectures concerning the genre of the novel. An ability to read the novels in the original language will be helpful. The student should consult his adviser and the schedule of classes for sections appropriate to his graduate program. This course number may be repeated with different content for additional credit.

572 Graduate Seminar: Poetry (3)

573 Graduate Seminar: Drama (3)

580 Graduate Seminar: Major Figures in World Literature (3)

Directed study and research on a major figure in world literature. Students will write reports and a long paper on approved topics.

582 Graduate Seminar: Dante (3)

591 Seminar in Comparative Literary Criticism (3)

598 Thesis (3)

599 Independent Study (1-3)

EARTH SCIENCE

(See program offered by the Department of Science and Mathematics Education)

DEPARTMENT OF ENGLISH

FACULTY

Joan V. Greenwood

Department Chairman

Don Austin, Rosemary Boston, John Brugaletta, Miriam Cox, Sherwood Cummings, Dorothea de France, George Friend, Cynthia Fuller, Stephen Garber, Joseph Gilde, Annabelle Haaker, Jean Hall, Mary Hayden, Joseph Hayes, Dennis Hengeveld, Jane Hipolito, Robert Hodges, Michael Holland, Wayne Huebner, Charlotte Hughes, Helen Jaskoski, Hazel Jones *, Dorothy Kilker, Thomas Klammer, William Koon, A. David Law, Joanne Lynn, Willis McNelly, Russell Miller, Keith Neilson, Irene Nims, Paul Obler, Rita Oleyar, Urania Petalas, June Salz Pollak, Orrington Ramsay, Michael Riley, Sally Romotsky, William Rubinstein, Joseph Sawicki, Clarence Schneider, John Schwarz, Sari Scott, Alice Scoufos, Donald Sears, Howard Seller, Priscilla Shames, Som Sharma, George Spangler, Alexander Stupple, Elena Tumas, Martha Vogeler, M. John Wagner, John White, Helen Yanko

The English Department offers courses designed to acquaint the student with the nature and development of our language, with the literatures of England and America, and with the disciplines involved in the various kinds of writing. Except for freshman English offerings, courses in world literature in English translation are listed separately, under Comparative Literature. In addition the Department of English offers some specialized professional courses for the preparation of teachers. On the senior and graduate levels, various opportunities are provided for seminar work and independent study.

BACHELOR OF ARTS IN ENGLISH

Requirements: A total of 42 units beyond English 100 and 103, or their equivalents, including 201 which should be completed before upper division courses are taken.

Lower Division (maximum of 9 units)

May include survey courses in British, American or world literature.

Basic Course (3 units)

201 Analysis of Literary Forms

^{*} University administrative officer

296 English

Upper Division (minimum of 33 units)

Language courses (minimum of 3 units), selected from the following:

- 303 The Structure of Modern English
- 305 American Dialects
- 490 History of the English Language

American literature (6 units):

- 321 American Literature to Whitman
- 322 American Literature from Twain to the Moderns

Major author courses (9 units)

- 333 Chaucer
- 334 Shakespeare
- 341 Milton

Period courses (minimum of 6 units, at least 3 in a period preceding the Romantic Movement) selected from the following:

- 332 Medieval Literature
- 335 Elizabethan and Jacobean Drama
- 336 Elizabethan Poetry and Prose
- 337 17th Century Poetry and Prose
- 338 Drama of the Restoration and the 18th Century
- 339 Restoration Literature (1660-1700)
- 340 18th-Century Poetry and Prose
- 343 The Romantic Movement in English Literature
- 344 Victorian Literature
- 345 The Development of the English Novel through Jane Austen
- 346 The Development of the 19th-Century English Novel
- 462 Modern British and American Novels
- 463 Contemporary British and American Novels
- 464 Modern British and American Drama
- 466 Modern British and American Poetry

Transfer students should consult with their advisers who may recommend the granting of further credit for lower division work completed at other institutions.

Electives to complete a minimum of 42 units selected from additional courses in language and composition, period courses, literary criticism, senior seminars, and comparative literature. Comparative literature offerings are listed separately, but count toward an English major.

A program of literary studies gains in perspective through the study of history, sociology, philosophy, and psychology. Students of literature are strongly advised to include such courses in their program.

English majors who intend to pursue graduate study are urged to acquire proficiency in at least one foreign language. Note: Freshmen intending to major in English should complete two years of course work in a foreign language, or demonstrate equivalent accomplishment by transfer or by examination.

MINOR IN ENGLISH

Requirements: a total of 21 units.

Lower Division (maximum of 9 units)

201, 211, 212, or any lower division course beyond English 100 and 103 or the equivalent. Lower division electives (3 units)

Upper Division (minimum of 12 units), including:

American Literature (minimum of 3 units), selected from the following:

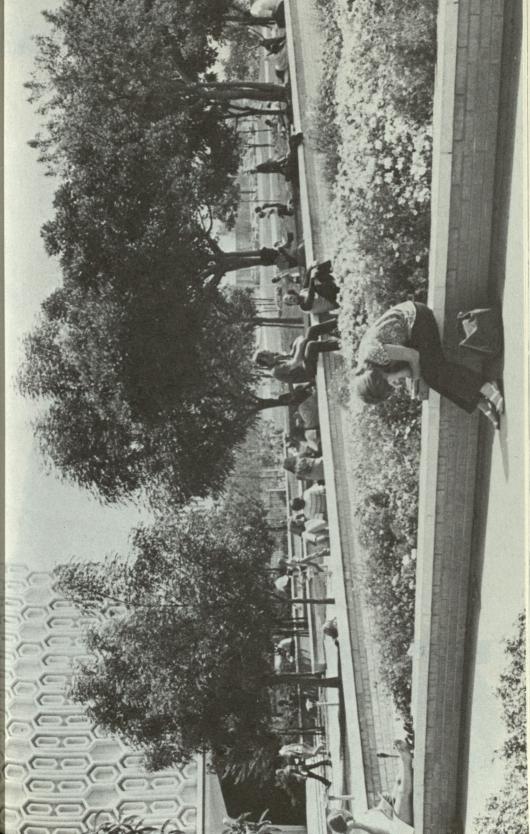
- 321 American Literature to Whitman
- 322 American Literature from Twain to the Moderns

Language courses (minimum of 3 units), selected from the following:

- 303 The Structure of Modern English
- 305 American Dialects
- 490 History of the English Language

Major author courses (minimum of 6 units)

- 334 Shakespeare
- 333 Chaucer or
- 341 Milton





MASTER OF ARTS IN ENGLISH

To qualify for admission to the program for the M.A. in English (classified graduate status), a student must hold a bachelor's degree in English from an accredited institution at which he has maintained at least a 3.0 grade-point average in the major courses provided that he has a minimum of 24 units of upper-division coursework; or if he holds a bachelor's degree in another major, he must have completed 24 units of upper-division coursework in English with at least a 3.0 grade-point average. If the student lacks the prerequisite number of English courses, he must make them up before he may begin work in the master's degree program, earning at least a 3.0 in such makeup coursework. In the event that the student's GPA in prerequisite English courses is less than 3.0, he may be allowed to take from six to nine units of probationary, adviser-approved coursework. If his GPA in these probationary courses is 3.0 or better, he may be admitted (classified). Courses taken to remove qualitative and quantitative deficiencies may not be applied to the M.A. program.

A student is required to have two years of one foreign language at the college or university level or six units of study in comparative literature. If taken as graduate work, these six units may be applied to the master's degree under "units in subjects related to English."

Study Plan:	Units
Minimum units in courses restricted to graduate students (500 series)	18
Maximum units in specified upper-division courses in English	6
Units in subjects related to English	6
	elileseTE.
Total	30

At the conclusion of his program he will take the written comprehensive examination for the master's degree.

Note: The student is strongly advised to take the steps necessary for admission to the program before registering for his first graduate courses. Part of the admission process is to confer with the graduate adviser, who will analyze prerequisites and designate those courses which will apply to the degree program. Courses taken by an unclassified student do not necessarily apply toward a degree. At the time the student achieves classified status, no more than nine units of postgraduate coursework may be applied to the master's degree program.

For further information, consult the Department of English.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

ENGLISH COURSES

For world literature in English translation see courses under comparative literature.

100 Composition (3)

S

A basic course in composition. The course carries no credit toward the major.

103 Seminars in Writing (3)

A course for the student with some proficiency in composition. Readings on a relevant topic are meant to motivate the student to express his thoughts in a meaningful, disciplined manner.

105 Introduction to Creative Writing (3)

An exploratory creative writing course in which the student is given the opportunity to write in various genres. The course carries no credit toward the major.

110 Literature of the Western World from Ancient through Medieval Times (3)
The study of representative writers and works from the ancient through the medieval world.

111 Literature of the Western World from the Renaissance through the 19th Century (3) The study of representative writers and works from the Renaissance through the 19th century.

112 Modern Literature of the Western World (3)

The study of representative writers and works of modern literature.

201 Analysis of Literary Forms (3)

The main literary forms—prose fiction, poetry, and drama—are studied and analyzed. Various critical methods are applied to representative works mainly from English and American literature. English majors should schedule this basic course as early in their programs as possible.

202 The Short Story (3)

A course designed to introduce the student to the study of the structure and technique of the short story. Emphasis on critical analysis of selected American and European short stories. (Same as Comparative Literature 202)

205 Introduction to Drama (3)

A course designed to introduce the student to the study of dramatic literature. Emphasis on close analysis of individual plays.

206 Introduction to Poetry (3)

A course designed to increase students' understanding and appreciation of the art of poetry. The primary activity will be close reading of poems written in English.

211 Masters of British Literature (3)

Prerequisite: limited to students who are of sophomore standing or who have obtained the consent of instructor. An introduction to major periods and movements, major authors and major forms through 1760.

212 Masters of British Literature (3)

Prerequisite: limited to students who are of sophomore standing or who have obtained the consent of the instructor. An introduction to major periods and movements, major authors and major forms from 1760 through modern times.

301 Advanced Composition (3)

Prerequisites: English 100, 103, or their equivalents. Exercises in creativity, analysis, and rhetoric as applied in expository writing. Required of English majors seeking the secondary credential.

303 The Structure of Modern English (3)

Prerequisite: junior standing. The grammar of contemporary English. Modern English usage. Required of English majors seeking the secondary credential. Must be taken before student teaching is begun.

305 American Dialects (3)

An examination of the principles of dialectology. Emphasis will be on the description of modern American dialects and their role in social, cultural and educational issues of today. (Same as Linguistics 305)

320 Literature of the American Indian (3)

A study of the prose and poetry of the American Indian, focusing on the literatures of the North American tribes.

321 American Literature to Whitman (3)

Emphasis on major writers: Hawthorne, Poe, Melville, Emerson, Thoreau, Whitman, and others.

322 American Literature from Twain to the Moderns (3)

Emphasis on Twain, James, Crane, Hemingway, Faulkner, O'Neill, Frost, Eliot.

325 American Ballad and Folksong (3)

A survey of Anglo-American balladry and folksong, with attention to historical development, ethnic background and poetical values.

332 Medieval English Literature (3)

An introduction to the literature of medieval England, exclusive of Chaucer. Readings in modern English versions of representative major works and genres from *Beowulf* to Malory.

333 Chaucer (3)

A study of *The Canterbury Tales* and of Chaucer's language, with particular emphasis upon the understanding of the vocabulary, pronunciation, grammar, and syntax of the East Midland dialect of Middle English, as indispensable to literary appreciation.

334 Shakespeare (3)

An introduction to Shakespeare's art through a detailed study of the more famous plays.

335 Elizabethan and Jacobean Drama (3)

Studies of representative English dramatists of the late 16th and early 17th centuries. Emphasis on the development of the dramatic tradition in the plays of Marlowe, Jonson, Webster, Beaumont and Fletcher, and others.

336 Elizabethan Poetry and Prose (3)

A study of the nondramatic literature of the English Renaissance from More to Campion. Emphasis on Renaissance thought and the works of Spenser.

337 17th-Century Poetry and Prose (3)

A survey of the major writers of the period from 1603 to 1660 exclusive of Milton.

338 The Drama of the Restoration and the 18th Century (3)

A study of representative plays of the Restoration and the 18th century. Emphasis will be placed on the development of such dramatic movements as the heroic play, Restoration comedy and sentimental drama.

339 Restoration Literature (1660-1700) (3)

Butler, Rochester, Dryden, Pepys, and selected minor writers.

340 18th-Century Poetry and Prose (3)

Swift, Addison and Steele, Pope, Boswell, Johnson, and selected minor writers.

341 Milton (3)

An intensive study of the poetry and prose in the light of Milton's intellectual development.

343 The Romantic Movement in English Literature (3)

Burns, Blake; Wordsworth, Coleridge; Byron, Shelley, and Keats. The reaction against rationalism, the rise of revolutionary and liberal thought, humanitarianism, and emphasis on individual creativity.

344 Victorian Literature (3)

A study of literature in its relationship to the problems which emerge from the social, cultural, scientific and industrial revolutions of the Victorian period.

345 The Development of the English Novel through Jane Austen (3)

A study of the English novel from its beginnings to the 19th century considering such novelists as Defoe, Richardson, Fielding, Sterne and Austen.

346 The Development of the 19th-Century English Novel (3)

A study of such novelists as the Brontes, Thackeray, Dickens, Eliot and Hardy.

351 Science Fiction (3)

Prerequisite: English 101. The study of science fiction as a genre, including future-scene fiction, the utopian novel, the superman novel, and short fantasy stories.

352 African Literature (3)

African literature written in the English language, with special emphasis on the fiction, poetry and drama of the new nations. (Same as Comparative Literature 352)

353 Black Writers in America (3)

A study of black American writers from Frederick Douglass to the present. Concentration on important figures such as Wright, Ellison and Baldwin.

364 Seminar in Writing (3)

Prerequisites: evidence of student's previous interest in creative writing and consent of instructor. Study of superior models, development of style, and group criticism and evaluation of each student's independent work. Depending on the specialized writing field of the instructor, the various sections will concentrate on fiction, plays or poetry. May be repeated for credit. (Same as Theatre 364)

391 Survey of English Literary Criticism (3)

A study of the major English critics from the Renaissance to the modern. Emphasis on Sidney, Dryden, Johnson, Coleridge, Arnold and Eliot.

421 Minority Images in American Literature (3)

An examination of 19th- and 20th-century literature written by and about racial groups in America. Includes *Uncle Tom's Cabin, Soul on Ice* and *Laughing Boy.*

423 Early American Literature (3)

Prerequisite: English 321 or consent of instructor. The literature of colonial and revolutionary America, including the Puritans, 18th-century deism and rationalism, and the literary antecedents of American democratic thought.

425 Darwinism in American Literature (3)

Prerequisites: junior standing and consent of instructor. An examination of selected writings of Darwin and of such Darwinians as Spencer and Huxley; then a study of the literary adaptations and assimilations of Darwinism. (Same as American Studies 425)

433 Children's Literature (3)

A study of masterpieces of the world's literature for children. Illustrates literary qualities appealing to children and demonstrates the ways in which children's literature reflects the particular cultural differences of the various Oriental, classical and modern cultures.

435 Studies in Shakespeare (3)

Prerequisite: English 334 or consent of instructor. An intensive study of selected plays with primary emphasis upon problems of dramatic structure and artistic meanings.

445 The American Tradition in Poetry (3)

A study of selected American poems from the 17th century to 1914. Emphasis on the close reading of individual poems.

446 The American Novel to 1914 (3)

A study of selected novelists from C. B. Brown, through Melville and Twain, to Dreiser.

451 Philosophical Backgrounds of Modern Literature (3)

(Same as Interdisciplinary Center 451)

452 Modern Literary Criticism (3)

Prerequisite: upper division standing or consent of instructor. A study of the major movements in 20th-century British and American criticism.

462 Modern British and American Novels (3)

Prerequisite: survey of English, American or world literature; an upper division literature course; or consent of instructor. Development of modern British and American novels from 1900 to 1950.

463 Contemporary British and American Novels (3)

The novel in English since World War II.

464 Modern British and American Drama (3)

Prerequisite: survey of English, American or world literature; an upper division literature course; or consent of instructor. The development of British and American drama from 1900 to the present.

465 Contemporary British and American Drama (3)

British and American drama from 1950 to the present.

466 Modern British and American Poetry (3)

Prerequisite: survey of English, American or world literature; an upper division literature course; or consent of instructor. The development of British and American poetry from 1900 to the present.

467 Contemporary British and American Poetry (3)

British and American poetry from 1950 to the present.

490 History of the English language (3)

Prerequisite: senior or graduate standing. The historical development of English vocabulary, phonology, morphology and syntax from Indo-European to modern American English.

491 Senior Seminar (3)

Prerequisite: an undergraduate course in the area to be studied, a B average or better in English courses, or consent of instructor. Directed research and writing, group discussion, and lectures covering selected topics from language studies, intensive studies of major writers, criticism, and literary types, periods, and ideological trends.

499 Independent Study (3)

Open to advanced students in English with the consent of department chairman. May be repeated for credit.

570 Graduate Seminar: Language Studies (3)

Directed research and writing, group discussion, and lectures covering philology, historical development, and structure of English. Individual offerings under this course number may deal with only one aspect of language studies. The student should consult his adviser and the schedule of classes for the sections appropriate to his graduate program. May be repeated with different content for additional credit.

571 Graduate Seminar: Major Writers (3)

As appropriate to the specialized research and publication of instructor, this course will offer directed research and writing, group discussion, and lectures covering major figures such as: Shakespeare, Milton, Chaucer, Melville, Twain, Hawthorne, Joyce and Coleridge. The student should consult his adviser and the schedule of classes for the sections appropriate to his graduate program. May be repeated with different content for additional credit. (Same as Theatre 571)

572 Graduate Seminar: Literary Genres (3)

As appropriate to the specialized research and publication of instructor, this course will offer directed research and writing, group discussion and lectures, covering such major literary types as: the epic, the novel, the short story, lyric poetry, tragedy, comedy and historical drama. The student should consult his adviser and the schedule of classes for sections appropriate to his graduate program. May be repeated with different content for additional credit. (Same as Theatre 572)

573 Graduate Seminar: Cultural Periods (3)

As appropriate to the specialized research and publication of instructor, this course will offer directed research and writing, group discussion, and lectures covering the literature of a particular cultural period from the Anglo-Saxon to modern times. The student should consult his adviser and his schedule of classes for the sections appropriate to his graduate program. May be repeated with different content for additional credit.

574 Graduate Seminar: Special Problems in Literature (3)

As appropriate to the specialized research and publication of the instructor, this course will offer directed research and writing, group discussion and lectures covering special problems such as: the detailed critical study of varying influences on literature, including philosophical, religious, scientific, geographic and other ecological viewpoints. The student should consult his adviser and his schedule of classes for the sections appropriate to his graduate program. May be repeated with different content for additional credit.

579 Graduate Seminar: Problems in Criticism (3

Directed research and writing, group discussion, and lectures covering historical development and schools of criticism. Individual offerings within this course number may deal with only one aspect of critical problems. The student should consult his adviser and the schedule of classes for the sections appropriate to his graduate program. May be repeated with different content for additional credit.

599 Independent Graduate Research (3)

Research projects in areas of specialization beyond regularly offered coursework. Oral and written reports. May be repeated with different content for additional credit.

ENGLISH EDUCATION COURSES

442 Teaching English in the Secondary School (2)

Prerequisites: Education 411, admission to teacher education. Principles, methods, and materials of teaching English in the secondary school. The student who has not had teaching experience must register concurrently in Education 449.

749 Student Teaching in English in the Secondary School and Seminar (6)

See page 208 for description and prerequisites.

ENVIRONMENTAL STUDIES PROGRAM

FACULTY

William C. Langworthy

Program and Human Ecology Director

Arthur Earick (Urban Studies), Barry Gerber (Technological Studies), Barry Thomas (Environmental Education), Edwin Carr (Education), James Do (Student), Margaret Fitch (Psychology), Gary Hannes (Geography), Christopher Hulse (Anthropology), William Ketteringham (Geography), Robert Laidlaw (Student), Michael Lee (Art), Peter Mlynaryk (Finance), William Petak (Political Science), Leonard Pettyjohn (Geography), Marvin Rosen (Communications), Frank St. Clair (Student), James Stupple (English), Imre Sutton (Geography), Floyd Thomas (Engineering), Joel Weintraub (Biological Science), W. Van Willis (Chemistry)

Environmental studies is an interdisciplinary program of courses dealing with man and his interactions with his environments—cultural as well as natural. The courses, both pre-existing in various departments and specially developed, attempt to integrate knowledge and methods from several disciplines, all of which independently study special aspects of this area. The program will deal with man in his social and cultural aspect, as he exploits, modifies and attempts to achieve balance with his environment. The student will have the opportunity to cope with problems involving ecological changes, pollution, technological solutions, economics, balanced land use, and politics.

The program is intended to provide the widest possible variety of students with an opportunity to become acquainted with and acquire a common vocabulary in this vital area. A basic element will be an introductory seminar in environmental studies, which will bring together students and staff from various disciplines to delineate environmental problems and explore fundamental methods. This seminar may be taken either on the undergraduate or graduate level and will be prerequisite to all further work in the projected graduate program. Additional graduate-level interdisciplinary

courses are planned, including core seminars designed to serve as foundations for graduate curricula in the program options.

No degree objective in environmental studies is planned for undergraduates; however, participation by such students in the program is encouraged. Individuals interested in environmental problems, irrespective of their majors, and those planning to enter job-related areas should consider supplementing their regular course schedules with elements of this program. A proposed master's degree in environmental studies is under development; students in the program will be able to elect options in human ecology, technological studies, urban studies or environmental education.

Courses in Environmental Studies

Environmental Studies 431 Ecology of the Santa Ana Mountains (3) Environmental Studies 440A,B Introduction to Environmental Studies (3–3)

Environmental Studies 568 Law and Environment (3)

Related Departmental Courses

Listed below are a number of departmental courses which either bring up environmental issues or deal with concepts bearing on such issues. Few have extensive prerequisites; they are therefore suitable for undergraduates interested in learning more about man and his environment.

Anthropology 204 Man's Many Faces (3)

Anthropology 460 Culture Change (3) Biological Science 102 Crisis Biology (3)

Biological Science 267 Man and Insects (3)

Biological Science 316 Principles of Ecology (4)

Engineering 207 Pollution and Politics (3)

Engineering 425A,B Environmental Engineering (3,3)

Geography 150 Environment in Crisis (3)

Geography 350 Conservation of the American Environment (3)

Geography 370 Urban Geography (3)

Geography 453 Cultural Ecology (Also Anthropology 453) (3)

Nature Interpretation 350 Field Biology and Conservation (3)

Nature Interpretation 460 Applied Conservation (4)

Physical Science 100 Man and His Physical Environment (4)

Sociology 361 Population Problems (3)

Sociology 371 Urban Sociology (3)

Technological Studies 100 Introduction to Technological Studies (3)

Technological Studies 110A,B Man-Made World (3,3)

Technological Studies 410 Society and Technology (3)

Technological Studies 430 Technology and Ideology (3)

ENVIRONMENTAL STUDIES COURSES

431 Ecology of the Santa Ana Mountains (3)

An interdisciplinary course composed of seminars, field investigation, and laboratory compilation of environmental factors of a wild region within the urbanizing areas of Southern California. Instructed and supervised by specialists in earth science, geography and biological science. Intensive field investigation of factors of significance in the location and distribution of plants and animals, utilizing techniques of aerial photography, remote sensing, geologic and vegetation mapping, instrumentation of environmental factors and taxonomy. Open to advanced undergraduate and graduate students.

440A,B Introduction to Environmental Studies (3,3)

Prerequisites: advanced standing in an academic major and permission of the director. 440A is prerequisite to 440B. Principles, fundamentals, and current problems involving man and his physical, biological, and man-made environment. Seminars and field trips (weekend trips may be required).

568 Law and Environment (3)

An interdisciplinary seminar in the role of law in the allocation, management, and administration of resources and the environment. Relevant studies relate to conservation law, land tenure, water rights, environmental health and other topics.

DEPARTMENT OF FOREIGN LANGUAGES AND LITERATURES

FACULTY Samuel Cartledge Department Chairman

Linda Andersen, Oswaldo Arana, Nancy Baden, Robert Bertalot, Gerald Boarino, Modesto Diaz, Leon Gilbert, Walter Kline, G. Bording Mathieu, Harvey Mayer, Doris Merrifield, Ervie Pena, Charles Shapley, Curtis Swanson, Jacqueline Thornton, Marjorie Tussing, Eva Van Ginneken, Stephen Vasari, Jon Zimmermann

BACHELOR OF ARTS IN FRENCH, GERMAN OR SPANISH

Several options are offered:

- 1. French major. Requirements: French 101, 102, 203, 204, 213, 214, or their equivalents; plus a minimum of 24 units of upper division courses including 315, 317, 375, 431, 441, 451, 461.
- German major. Requirements: German 101, 102, 203, 204, 213, 214, or their equivalents; plus 24
 units of upper division coursework, which must include 315, 317, 375 and three of the following
 literature courses: 430, 440, 450, 460.
- 3. Spanish major. Requirements: Spanish 101, 102, 203, 204, 213, 214, or their equivalents, 315, 316, 317 or 318, 375, 400 (or its equivalent), plus 15 units of upper division courses in Spanish which must include Spanish 430, 441 and 461.

Those Spanish majors who wish to prepare themselves to teach in bilingual programs would pursue the following 27-unit upper division sequence: Spanish 315 or 316, 317 or 318, 375, 400 (or its equivalent), 466, 467, 468, at least one 400-level Spanish literature course, plus an elective, chosen in consultation with the adviser, from the areas of Spanish literature, Chicano studies, education or social sciences.

MINOR IN A FOREIGN LANGUAGE

Requirements: Courses 101, 102, 203, 204, 213, 214, or their equivalents, completed satisfactorily; plus nine units in upper division courses selected in consultation with the adviser. Minor concentrations are offered in French, German, Portuguese, Russian and Spanish.

PROGRAMMED COURSES IN UNCOMMONLY TAUGHT LANGUAGES

The department has available a number of programmed courses in languages which cannot be regularly taught such as Arabic, Hindi, Japanese, etc. For details see Foreign Languages 198.

CREDENTIAL PROGRAMS

All prospective teachers, before being admitted to a credential program, must pass a proficiency examination in which their skills of listening, speaking, reading, writing and knowledge of linguistic principles will be tested. The examination is administered twice yearly, in September and February. Students should make arrangements with the department to take the test during their senior year or during the first semester of their fifth year.

STANDARD TEACHING CREDENTIAL, SPECIALIZATION IN ELEMENTARY TEACHING

Students who are candidates for the standard teaching credential with a specialization in elementary teaching are encouraged to enroll in Foreign Languages Education 432 and 433.

STANDARD TEACHING CREDENTIAL, SPECIALIZATION IN SECONDARY EDUCATION

The credential program is the same as for the liberal arts major, with the following additional requirements:

Foreign Languages Education 442;

French or German or Spanish Applied Linguistics 466;

plus six units in the major language selected with the approval of the adviser and taken in the senior year or thereafter at the 400 and 500 level.

INTERNATIONAL PROGRAMS

In accordance with recommendations made by the Modern Language Association of America, the Department of Foreign Languages and Literatures encourages all majors interested in a teaching career to participate in a study-abroad program. This will enable a student to perfect his mastery of the language and afford him additional insights into the foreign culture. To this end, the California State University and Universitys International Programs offer a wide variety of study opportunities on the junior, senior and graduate level. Language majors are, however, required to complete a minimum of three literature courses at the 400 level on the Fullerton campus. For further information, see page 21.

THE LANGUAGE LABORATORY

Students enrolling in courses 101, 102, 203, 204 are required, in addition to the regular class periods, to practice for the minimum of prescribed time in the language laboratory. The 30-station laboratory operates like a library; students may use it at a time most convenient to them preferably every day in sessions of 15 to 30 minutes. Further details will be announced by each instructor and by the supervisor of the language laboratory.

Students are invited to make use of the collection of literary and cultural recordings in French, German, Portuguese, Russian and Spanish available in the language laboratory.

MASTER IN ARTS IN FRENCH, GERMAN OR SPANISH

The degrees of Master of Arts in French, German and Spanish require a minimum of 30 semester units beyond the bachelor's degree. A candidate presenting a B.A. which has fewer than 24 upper division units in the major language, or is otherwise inadequate, normally will be required to take additional courses to build a full undergraduate major before beginning the graduate program. The student must also demonstrate proficiency in English, either by examination or a three-unit upper division course in English grammar. The 30 units in the graduate program are distributed as follows:

Language and linguistics courses (minimum of 9 on 500 level)	Units
Literature courses (minimum of 6 on 500 level)	12
Subjects in an approved related field	6
Minimum total	30

A part of the 30 units may be assigned to a thesis.

The candidate for the M.A. degree must consult a graduate adviser before beginning his program. Before being advanced to candidacy for the degree, he must demonstrate proficiency in the language to a faculty committee appointed for that purpose. The terminal evaluation is by comprehensive written and oral examination, including fluency in the specified language.

For further information, consult the Department of Foreign Languages and Literatures.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

FOREIGN LANGUAGES COURSES

198 Programmed Courses in Uncommonly Taught Languages (1-3)

Intensive individualized programmed instruction in specific languages other than those regularly offered by the Department of Foreign Languages and Literatures, such as Arabic, Chinese, Hindi and Japanese. Designed to develop the skills of auditory comprehension and speaking in the language to form a basis for later development of the reading and writing skills. A minimum of 3 hours per week in the learning laboratory as well as regular sessions with native informants, are required for each unit of credit. May be repeated for credit.

FOREIGN LANGUAGES EDUCATION COURSES

432 Teaching Foreign Languages in the Elementary School (2)

Methods of teaching FLES: foreign languages in elementary schools. Critical review of materials, audiolingual-visual aids, and current research. Conducted in English, with practice by students in the language they plan to teach.

433 Electromechanical Aids in the Foreign Language Classroom (1)

Principles and techniques of advanced electromechanical, auditory, visual and programmed learning devices in foreign language instruction. Special emphasis on instructional television and the language laboratory.

442 Teaching Foreign Languages in the Secondary School (2)

Prerequisites: Education 340 and 411; French, German or Spanish 266; and admission to teacher education. Open also to experienced teachers. The student who has not had teaching experience must register concurrently in Education 449. See page 199 under Secondary Education for description of Standard Teaching Credential program. The theory and practice of language learning and language teaching with special emphasis on the audiolingual method in combination with electromechanical aids. Conducted in English, with practice by students in the language they plan to teach. Required, before student teaching, of students presenting majors in foreign languages for the standard teaching credential with a specialization in secondary education.

749 Student Teaching in Foreign Languages in the Secondary School and Seminar (6) See page 208 for description and prerequisites.

FRENCH COURSES

French 315 and 375 are prerequisites for all French literature courses at the 400-level.

101 Fundamental French (5)

Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of French. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in French.

102 Fundamental French (5)

Prerequisite: French 101 or equivalent. Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of French. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in French.

203 Intermediate French (3)

Prerequisite: French 102 or equivalent. Intensive practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in French.

204 Intermediate French (3)

Prerequisite: French 203 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in French.

213 Intermediate Composition (2)

Practice in written expression based on cultural and literary materials. May be taken concurrently with French 203. Conducted in French.

214 Intermediate Composition and Phonetics (2)

Practice in written expression and oral delivery of cultural and literary materials. Detailed analysis of individual problems in pronunciation followed by intensive work in class and the language laboratory. May be taken concurrently with French 204. Conducted in French.

300 French Conversation (3)

Prerequisites: French 204 and 214 or equivalent. Designed to enable the student to develop further his oral control of the language in the context of his own or contemporary concerns rather than in the context of the subject matter of a French major. Conducted in French. (1 hour lecture, 2 hours activity)

303 Readings in Scientific French (3)

Prerequisite: French 102 or equivalent. Open only to science and mathematics majors. Readings reflecting a broad spectrum of writing in the physical and natural sciences and mathematics. Special attention given to the development of rapid reading for comprehension.

315 Introduction to French Civilization (3)

Prerequisite: French 204 or equivalent. Open to lower division students with consent of instructor. Reading and discussions to develop a view of the French tradition (its social, intellectual and literary evolution) while at the same time strengthening facility with the language. Conducted in French.

317 Advanced Composition and Grammar (3)

Prerequisite: French 204 or equivalent. Emphasis on free oral and written expression. Conducted in French.

318 Advanced Composition and Grammar (3)

Prerequisite: French 317 or equivalent. Designed to give the student special competence in the control of French as an instrument for free oral and written expression. Conducted in French.

325 Contemporary French Civilization (3)

Prerequisite: French 204 or equivalent. Open to lower division students with consent of instructor. Reading and discussion to develop understanding of the social and intellectual problems, trends, and contributions of present-day France, while at the same time strengthening facility with the language. Conducted in French.

375 Introduction to Literary Forms (3)

Prerequisite: French 317 or consent of instructor. An introduction to the principal literary forms, prose fiction, poetry, drama and the essay and to the major concepts of the literary techniques and criticism. Close analysis and interpretation of various texts to increase the student's abilities in reading, language, and literary criticism. Conducted in French.

400 French for Advanced Students and Teachers (3)

Prerequisite: French 317 or consent of instructor. Intensive review of spoken French, while developing the student's powers of self-expression in the spoken and written language. Conducted in French.

431 French Literature in the Middle Ages and Renaissance (3)

Prerequisite: French 315 or consent of instructor. The development of French literature from the 12th through the 16th centuries, through analysis of representative works. Conducted in French.

441 French Literature in the Century of Revolution (3)

Prerequisite: French 315 or consent of instructor. The principal authors and movements (romanticism, realism, naturalism, symbolism) of the 19th century. Conducted in French.

451 French: Literature in the Baroque and Classic Age (3)

Prerequisite: French 315 or consent of instructor. The essence and evolution of 17th-century classicism, studied principally in the major authors (Corneille, Molière, Racine, La Fayette) and in the dominant genre (the theater). Conducted in French.

461 French Literature in the Age of Enlightenment (3)

Prerequisite: French 315 or consent of instructor. Two complementary aspects of the 18th century: reason and feeling, the *philosophes* and the current of sensibility. Emphasis on major authors (Marivaux, Voltaire, Diderot, Rousseau, Laclos). Conducted in French.

466 Introduction to French Linguistics (3)

The analytical procedures of general linguistics as applied to French, with special attention to structural contrasts between French and English. Emphasis on the application of linguistic analysis to the teaching of modern foreign languages.

471 Senior Seminar: Contemporary French Literature (3)

Prerequisite: French 315 or consent of instructor. The major figures of the 20th century, including the generations of Proust, Apollinaire, Malraux, Sartre and Robbe-Grillet. Conducted in French.

485 Senior Seminar in French Literature (3)

Prerequisite: French 431, 441, 451, 461, or senior standing. Exploration of a literary current, period, author, genre or problem. Subject will change each time course is given and may be repeated for credit. Conducted in French.

492 Literature of Action in 20th-Century France (3)

Selected works read, discussed and analyzed in the light of current philosophical trends as well as historical and political developments. The works studied might include such titles as: The Counterfeiters (Gide); Man's Fate and The Tempation of the West (Malraux); The Wall and What is Literature (Sartre); The Plague and Resistance, Rebellion and Death (Camus); Wind, Sand and Stars and A Sense of Life (Saint-Exupery). Readings and lectures in English. May not be counted toward fulfillment of the requirements for the major in French.

499 Independent Study (1-3)

Supervised projects in French language or literature to be taken with the consent of the instructor and department chairman. May be repeated for credit.

500 Graduate Seminar: Advanced Structure and Style (3) Prerequisite: consent of instructor. Conducted in French.

510 Graduate Seminar: Phonology (3)

Prerequisite: French 466 or consent of instructor. Conducted in French.

520 Old French (3)

Prerequisite: consent of instructor. Readings in the medieval literature of northern France representing a wide variety of dialects and centuries. Conducted in French.

530 Graduate Seminar: Historical Linguistics (3)

Prerequisite: French 466 or consent of instructor. It is highly recommended that the student have some previous study of Latin. Studies in the phonetic, morphological, syntactic and semantic changes that characterize the development of Latin into the French of today. Conducted in French.

557 Graduate Seminar: French Poetry (3)

Prerequisite: consent of instructor. Conducted in French.

571 Graduate Seminar: French Prose (3)

Prerequisite: consent of instructor. Conducted in French.

575 Graduate Seminar: French Drama (3)

Prerequisite: consent of instructor. Conducted in French.

576 Graduate Seminar: Major Writers (3)

Prerequisite: consent of instructor. May be repeated for credit. Conducted in French.

598 Thesis (3-6)

Prerequisite: recommendation of student's graduate committee.

599 Independent Graduate Research (1-3)

Prerequisites: fluency in French and consent of instructor. Supervised research projects in French language or literature. May be repeated for credit.

GERMAN COURSES

German 315 and 375 are prerequisites for all German literature courses at the 400 level.

101 Fundamental German (5)

Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structures of German. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in German.

102 Fundamental German (5)

Prerequisite: German 101 or equivalent. Intensive practice in listening comprehension, speaking, reading, and writing to develop control of the sounds and the basic forms and structure of German. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in German.

203 Intermediate German (3)

Prerequisite: German 102 or equivalent. Intensive practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in German.

204 Intermediate German (3)

Prerequisite: German 203 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in German.

213 Intermediate Composition (2)

Practice in written expression based on cultural and literary materials. May be taken concurrently with German 203. Conducted in German.

214 Intermediate Composition (2)

Practice in written expression based on cultural and literary materials. May be taken concurrently with German 204. Conducted in German.

303 Readings in Scientific German (3)

Prerequisite: German 102 or equivalent. Open only to science and mathematics majors. Readings reflecting a broad spectrum of writing in the physical and natural sciences and mathematics. Special attention given to the development of rapid reading for comprehension.

315 Introduction to German Civilization (3)

Prerequisite: German 204 or equivalent. Open to lower division students with consent of instructor. Readings and discussions in German literature, arts and institutions to develop insights into German culture, while strengthening facility with the language. Conducted in German.

317 Advanced Conversation and Composition (3)

Prerequisite: German 204 or equivalent. Open to lower division students with consent of instructor. Emphasis on free oral and written expression. Conducted in German.

318 Advanced Composition and Grammar (3)

Prerequisite: German 317 or consent of instructor. Designed to give the student special competence in the control of German as an instrument for free oral and written expression. Conducted in German.

325 Modern German Thought in Science and Culture (3)

Prerequisite: German 204 or equivalent. Open to lower division students with consent of instructor. Readings and discussion of modern German thought in science, literature, philosophy and art, designed to acquaint the student with a broad range of German contributions to present-day civilization while strengthening facility with German language. Conducted in German.

375 Introduction to Literary Forms (3)

Prerequisite: German 317 or consent of instructor. An introduction to the principal literary forms, prose fiction, poetry, drama and the essay and to the major concepts of literary techniques and criticism. Close analysis and interpretation of various texts to increase the student's abilities in reading, language and literary criticism. Conducted in German.

390 Group Reading and Oral Interpretation (3)

Prerequisite: German through fourth semester or consent of instructor. Oral reading of *Horspiele*, dramatic literature and poetry in group session. Emphasis on the practice of reading aloud from the printed page with proper pronunciation and intonation with simultaneous discussion of surface, inner and personal meaning of the literary work. Conducted in German.

399 German Phonetics (1)

Prerequisites: junior standing and consent of instructor. Detailed analysis of individual problems in pronunciation followed by intensive work in class and the language laboratory. May be repeated for credit. Conducted in German.

400 German for Advanced Students and Teachers (3)

Prerequisites: German 317 or consent of instructor. Intensive review of German while developing the student's powers of self-expression in the spoken and written language. Conducted in German.

430 German Literature to the Baroque (3) (Formerly 451)

Prerequisite: German 375. Masterpieces of German literature from the *Hildebrandslied* to *Der Abenteuerliche Simplicissimus* and their relationship to cultural, historical and intellectual developments between ca. 800–1670 A.D. Conducted in German.

440 18th-Century German Literature (3)

Prerequisite: German 315, 317 and 375, or consent of instructor. The principal authors and movements (Enlightenment, Storm and Stress, Classicism, early Romanticism) of the 18th century. Conducted in German.

450 German Literature of the 19th Century (3)

Prerequisite: German 315, 317 and 375. Significant impulses in 19th-century German literature from Romanticism to Naturalism, including examination of decisive philosophic, political, and economic influences. Conducted in German.

460 20th-Century German Literature (3)

Prerequisite: German 315, 317 and 375, or consent of instructor. Major German prose, drama and poetry of the 20th century. Conducted in German.

466 Introduction to German Linguistics (3)

The analytical procedures of general linguistics as applied to German, with special attention to structural contrasts between German and English. Emphasis on the application of linguistic analysis to the teaching of modern foreign languages.

485 Senior Seminar in German Literature (3)

Prerequisites: senior standing in German and consent of instructor. Research and discussion in depth of a literary movement, a genre or an author. Subject will vary and will be announced in the class schedule. Topics offered in past years have included the Baroque, the *Novelle*, Brecht, Modern Drama, Keller, Poetic Realism, Romantic Period. May be repeated for credit with a different topic. Conducted in German.

492 German Literature in Translation (3)

Open to all students. Reading, discussion and interpretation of relevant German literature with emphasis on determining the specific contribution these works have made to world literature and the shaping of global philosophies. Authors include Goethe, Schiller, Kafka, Hesse, Mann, Brecht, Grass, Hauptmann. Readings and lectures in English. May not be counted toward fulfillment of the requirements for the major in German.

499 Independent Study (1-3)

Supervised research projects in German language or literature to be taken with consent of instructor and department chairman. May be repeated for credit.

500 Graduate Seminar: Advanced Structure and Style (3)

Prerequisite: consent of instructor. Conducted in German.

510 Graduate Seminar: Phonology (3)

Prerequisite: German 466 or consent of instructor. Conducted in German.

530 Graduate Seminar: Historical Linguistics (3)

Prerequisite: German 466 or consent of instructor. Conducted in German.

557 Graduate Seminar: German Poetry (3)

Prerequisite: consent of instructor. May be repeated for credit with a different topic. Conducted in German.

571 Graduate Seminar: German Prose (3)

Prerequisite: consent of instructor. Subject will vary and will be announced in the class schedule. May be repeated for credit with a different topic. Conducted in German.

575 Graduate Seminar: German Drama (3)

Prerequisite: consent of instructor. Subject will vary and will be announced in the class schedule. May be repeated for credit with a different topic. Conducted in German.

576 Graduate Seminar: Major Writers (3)

Prerequisite: consent of instructor. Subject will vary and will be announced in the class schedule. May be repeated for credit with a different topic. Conducted in German.

598 Thesis (3-6)

Prerequisite: recommendation of student's graduate committee.

599 Independent Graduate Research (1-3)

Prerequisites: fluency in German and consent of instructor. Supervised research projects in German language or literature. May be repeated for credit.

HEBREW COURSES

101 Fundamental Hebrew (3)

Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic structure of Hebrew.

102 Fundamental Hebrew (3)

Prerequisite 101. Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic structure of Hebrew.

203 Intermediate Hebrew (3)

Prerequisite: Hebrew 102 or consent of instructor. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Hebrew.

204 Intermediate Hebrew (3)

Prerequisite: Hebrew 203 or consent of instructor. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Hebrew.

499 independent Study (1-3)

Supervised projects in Hebrew language or literature to be taken with consent of instructor and department chairman. May be repeated for credit.

ITALIAN COURSES

101 Fundamental Italian (4)

Intensive practice in listening comprehension, speaking and writing to develop control of the sounds and the basic structure of Italian. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Italian.

102 Fundamental Italian (4)

Prerequisite: Italian 101 or equivalent. Intensive practice in listening comprehension, speaking, reading and writing to develop control of sounds and the basic forms and structure of Italian. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Italian.

203 Intermediate Italian (3)

Prerequisite: Italian 102 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Italian.

204 Intermediate Italian (4)

Prerequisite: Italian 203 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Italian.

LATIN COURSES

101 Fundamental Latin (3)

Intensive practice to develop a comprehensive reading knowledge and a fundamental writing ability in Latin. Modern techniques of language instruction will be applied.

102 Fundamental Latin (3)

Prerequisite: Latin 101 or equivalent. Intensive practice to develop a comprehensive reading knowledge and a fundamental writing ability in Latin. Modern techniques of language instruction will be applied.

203 Intermediate Latin (3)

Prerequisite: Latin 102 or equivalent (two years of high school Latin). Intensive reading and writing. Selected prose and poetry from the Golden Age. Audiolingual techniques of language learning are used when applicable.

204 Intermediate Latin (3

Prerequisite: Latin 203 or equivalent (three years of high school Latin). Intensive reading and writing. Selected prose from the Silver and Middle Ages. Audiolingual techniques of language learning are used when applicable.

499 Independent Study (1-3)

Supervised projects in Latin language and Roman literature. To be taken with consent of department chairman as a means of meeting special curricular problems. Subject matter will vary. May be repeated for credit.

PORTUGUESE COURSES

101 Fundamental Portuguese (4)

Listening comprehension, speaking, reading comprehension, and writing to develop control of the sounds and the basic forms and structures of Portuguese. Enrollment restricted to students with previous study of a Romance language. Conducted in Portuguese.

102 Fundamental Portuguese (4)

Prerequisite: Portuguese 101 or equivalent. Listening comprehension, speaking, reading comprehension, and writing to develop control of the sounds and the basic forms and structures of Portuguese. Enrollment restricted to students with previous study of a Romance language. Conducted in Portuguese.

315 Introduction to Luso-Brazilian Culture and Civilization (3)

Prerequisites: Portuguese 102 or equivalent, reading knowledge of Portuguese or consent of instructor. Readings and discussions to develop insights into the main currents of Portuguese culture and civilization, their expansion to the New World, and the intellectural and artistic development of Brazil from its discovery to the end of the Second Empire. Conducted in Portuguese.

317 Advanced Conversation and Composition (3)

Prerequisite: Portuguese 102 or equivalent. Open to lower division students with consent of instructor. Emphasis on free oral and written expression. Conducted in Portuguese.

325 Contemporary Brazilian Civilization (3)

Prerequisite: Portuguese 315 or consent of instructor. Readings and discussion toward developing an understanding of the social and intellectural problems, trends, and contributions to Brazil from the advent of the Republic. Major emphasis on present day Brazil. Conducted in Portuguese.

431 Portuguese Literature of the Golden Age (3)

Prerequisite: Portuguese 315 or consent of instructor. The literature of Portugal's golden age (1500–1700). The major works of the Cancioneiros, Gil Vicente, Luis de Cameos and other writers will be examined from the point of view of their artistic structure as well as within the context of Portuguese culture and civilization. Conducted in Portuguese.

441 Brazilian Literature (3)

Prerequisite: Portuguese 315 or consent of instructor. The literature of Brazil from the Colonial period to the present. Conducted in Portuguese.

499 Independent Study (1-3)

Supervised projects in Portuguese language or literature to be taken with the consent of the instructor and the department chairman. May be repeated for credit.

RUSSIAN COURSES

101 Fundamental Russian (5)

Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of Russian. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Russian.

102 Fundamental Russian (5)

Prerequisite: Russian 101 or equivalent. Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structures of Russian. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Russian.

203 Intermediate Russian (3)

Prerequisite: Russian 102 or equivalent. Intensive practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Russian.

204 Intermediate Russian (3)

Prerequisite: Russian 203 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Russian.

213 Intermediate Composition (2)

Practice in written expression based on cultural and literary materials. May be taken concurrently with Russian 203. Conducted in Russian.

214 Intermediate Composition (2)

Practice in written expression based on cultural and literary materials. May be taken concurrently with Russian 204. Conducted in Russian.

303 Readings in Scientific Russian (3)

Prerequisite: Russian 102 or equivalent. Open only to science and mathematics majors. Readings reflecting a broad spectrum of writing in the physical and natural sciences and mathematics. Special attention given to the development of rapid reading for comprehension.

315 Introduction to Russian Civilization (3)

Prerequisite: Russian 204 or equivalent. Open to lower division students with consent of instructor. Reading and discussion to develop a view of the Russian tradition (its social, intellectual and literary evolution) while at the same time strengthening facility with the language. Conducted in Russian.

317 Advanced Conversation and Composition (3)

Prerequisite: Russian 204 or equivalent. Open to lower division students with consent of instructor. Emphasis on free oral and written expression. Conducted in Russian.

375 Introduction to Literary Forms (3)

Prerequisite: Russian 317 or consent of instructor. An introduction to the principal literary forms, prose fiction, poetry, drama and the essay and to the major concepts of literary techniques and criticism. Close analysis and interpretation of various texts to increase the student's abilities in reading, language and literary criticism. Conducted in Russian.

400 Russian for Advanced Students and Teachers (3)

Prerequisite: Russian 317 or consent of instructor. Intensive review of spoken Russian, while developing the student's powers of self-expression in the spoken and written language. Conducted in Russian.

431 Early Russian Literature (3)

Prerequisite: Russian 315 or consent of instructor. Evolution of Russian literature from the medieval ecclesiastic traditions and transition to Baroque and Classicism. French and German influence on the 18th century. Transition to Romanticism and the beginnings of Realism. Conducted in Russian.

441 The Works of Tolstoy and Dostoevsky (3)

Prerequisite: Russian 315 or equivalent, or consent of instructor. Major works of Tolstoy and Dostoevsky in their intellectual and historical setting and their impact on Russian and world literature. Conducted in Russian.

451 The Golden Age of Russian Literature (3)

Prerequisite: consent of instructor. A study of major literary works of the first half of the 19th century which exemplify cultural and intellectual movements in Russia. Conducted in Russian.

461 Russian Literature from 1917 (3)

Prerequisite: Russian 315 or equivalent, or consent of instructor. Representative works of outstanding modern Russian writers with an emphasis on The Nobel Prize winners (M. Sholokhov and B. Pasternak). Analysis and discussion of their prose and poetry in the light of the social problems of present-day Russia. Conducted in Russian.

499 Independent Study (1-3)

Supervised projects in Russian language or literature to be taken with the consent of the instructor and department chairman. May be repeated for credit.

SPANISH COURSES

Spanish 315, 316 and 375 are prerequisites for all Spanish literature courses at the 400 level.

101 Fundamental Spanish (5)

Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of Spanish. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Spanish.

102 Fundamental Spanish (5)

Prerequisite: Spanish 101 or equivalent. Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of Spanish. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Spanish.

203 Intermediate Spanish (3)

Prerequisite: Spanish 102 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Spanish.

204 Intermediate Spanish (3)

Prerequisite: Spanish 203 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Spanish.

213 Intermediate composition (2)

Practice in written expression based on cultural and literary materials. May be taken concurrently with Spanish 203, Conducted in Spanish.

214 Intermediate Composition (2)

Practice in written expression based on cultural and literary materials. May be taken concurrently with Spanish 204. Conducted in Spanish.

315 Introduction to Spanish Civilization (3)

Prerequisite: Spanish 204 or equivalent. Open to lower division students with consent of instructor. Readings and discussions in Spanish literature, arts and institutions to develop insights into Spanish culture, while strengthening facility with the language. Conducted in Spanish.

316 Introduction to Spanish-American Civilization (3)

Prerequisite: Spanish 204 or equivalent. Open to lower division students with consent of instructor. Reading and discussion in Spanish-American literature, arts and institutions to develop insights into Spanish-American literature and culture while strengthening facility with the language. Conducted in Spanish.

317 Advanced Conversation and Composition (3)

Prerequisite: Spanish 204 or equivalent. Open to lower division students with consent of instructor. Emphasis on free oral and written expression. Conducted in Spanish.

318 Advanced Spanish Syntax and Composition (3)

Emphasis on linguistic problems encountered by the Spanish/English bilingual student in connection with his written expression. Conducted in Spanish.

375 Introduction to Literary Forms (3)

Prerequisite: Spanish 317 or consent of instructor. An introduction to the principal literary forms, prose fiction, poetry, drama and the essay and to the major concepts of the literary techniques and criticism. Close analysis and interpretation of various texts to increase the student's abilities in reading, language and literary criticism. Conducted in Spanish.

399 Spanish Phonetics (1)

Prerequisite: junior standing and consent of instructor. Detailed analysis of students' specific problems in pronunciation followed by intensive work in class and the language laboratory until articulatory proficiency is achieved. May be repeated for credit. Conducted in Spanish. 400 Spanish for Advanced Students and Teachers (3)

Prerequisite: Spanish 317 or consent of instructor. Intensive study of spoken Spanish, while developing the student's powers of self-expression in the spoken and written language. Conducted in Spanish.

415 Contemporary Spanish Culture (3)

Prerequisite: Spanish 315 or consent of instructor. An analysis and study of the cultural—social, economical, political—characteristics of contemporary Spanish life. Conducted in Spanish.

430 Spanish Literature to Neoclassicism (3)

Prerequisite: Spanish 315 and 375. Spanish literature from its beginnings to 1700, with special emphasis on the outstanding representative works of each genre. Conducted in Spanish.

440 Spanish-American Literature (3)

Prerequisite: Spanish 316 or consent of instructor. Spanish-American Literature from The Conquest to 1888. Conducted in Spanish.

441 Spanish-American Literature (3)

Prerequisite: Spanish 316 or consent of instructor. Spanish-American Literature from *modernismo* to the present. Conducted in Spanish.

461 Spanish Literature Since Neoclassicism (3)

Representative works of the 19th and 20th centuries. Conducted in Spanish.

466 Introduction to Spanish Linguistics (3)

The analytical procedures of general linguistics as applied to Spanish, with special attention to structural contrasts between Spanish and English. Emphasis on the application of linguistic analysis to the teaching of modern foreign languages.

467 Dialectology: Current Trends in Modern Spanish (3)

Prerequisites: Spanish 317 or 318; 400 or equivalent; and 466, the latter of which may be taken concurrently. Focuses on the differences in phonology, morphology, syntax and lexicon found in the linguistic patterns of all Spanish-speaking regions. Includes the influence and contribution of cultural and historical features, as well as the continuing interactions of Spanish and English. (3 hours lecture)

468 Spanish-English Contrastive Analysis (3)

Prerequisites: Spanish 317 or 318; 400 or equivalent; and 466, the latter of which may be taken concurrently. Theory and techniques of contrasting phonological grammatical and lexical structures of Spanish and English, with special emphasis on comparison of the two languages as related to the speaker of both languages. Development of specific professional means to deal with problems of linguistic interference encountered in multilingual classroom situations. (3 hours lecture)

472 Senior Seminar: Cervantes and the Age of Humanism (3)

Prerequisite: Spanish 430 or consent of instructor. Cervantes' artistic creation and its relation to the culture of the 16th century. Special emphasis on *Don Quixote* and the *Novelas ejemplares*. Conducted in Spanish.

475 Senior Seminar: Contemporary Literature of Spain (3)

The Generation of '98 and 20th-century theatre, poetry and novel. Conducted in Spanish.

485 Senior Seminar: Spanish Literature (3)

Prerequisite: senior standing in Spanish. Exploration of a literary current period, author, genre or problem in the literature of Spain and Spanish America. Subject will change each time the course is given. May be repeated for credit. Conducted in Spanish.

499 Independent Study (1–3)

Supervised research projects in Spanish language or literature to be taken with consent of instructor and department chairman. May be repeated for credit.

500 Graduate Seminar: Advanced Structure and Style (3)

Prerequisite: consent of instructor. Conducted in Spanish.

510 Graduate Seminar: Phonology (3)

Prerequisite: Spanish 466 or consent of instructor. Conducted in Spanish.

530 Graduate Seminar: Historical Linguistics (3)

Prerequisite: Spanish 466 or consent of instructor. Conducted in Spanish.

556 Graduate Seminar: Spanish Poetry (3)

Prerequisite: consent of instructor. Conducted in Spanish.

557 Graduate Seminar: Spanish-American Poetry (3)

Prerequisite: consent of instructor. Conducted in Spanish.

567 Graduate Seminar: Spanish-American Novel (3) Prerequisite: consent of instructor. Conducted in Spanish.

571 Graduate Seminar: Spanish Prose (3)

Prerequisite: consent of instructor. Conducted in Spanish.

575 Graduate Seminar: Spanish Drama (3)

Prerequisite: consent of instructor. Conducted in Spanish.

576 Graduate Seminar: Major Writers (3)

Prerequisite: consent of instructor. May be repeated for credit. Conducted in Spanish.

598 Thesis (3-6)

Prerequisite: recommendation of student's graduate committee.

599 Independent Graduate Research (1-3)

Prerequisites: fluency in Spanish and consent of instructor, Supervised research projects in Spanish language or literature. May be repeated for credit.

SWAHILL COURSES

101 Fundamental Swahili (4)

Intensive practice in listening comprehension, speaking and writing to master the basic structure of Swahili and the requisite skills for both oral and written communication. Conducted in Swahili. (Same as Afro-Ethnic Studies 104)

102 Fundamental Swahili (4)

Prerequisite: Swahili 101 or equivalent. Intensive practice in listening comprehension, speaking and writing to master the basic structure of Swahili and the requisite skills for both oral and written communication. Conducted in Swahili. (Same as Afro-Ethnic Studies 105)

DEPARTMENT OF GEOGRAPHY

FACULTY

Ronald Helin

Acting Department Chairman

Robert Brown, Arthur Earick, Wayne Engstrom, Gary Hannes, William Ketteringham, Tso-Hwa Lee, Leonard Pettyjohn, Bill Puzo, Gertrude Reith, Imre Sutton

The major in geography provides knowledge concerning variety and change in the earth's physical foundation and in man's economic, cultural and political relationship to that foundation. In doing so it contributes to a broad, liberal education and furnishes sound preparation for employment in business, planning, and government service. The field also provides a foundation for teaching on the elementary and secondary levels and for advanced geographic study on the graduate level leading to university and university teaching and research.

Students and counselors are advised that departmental offerings are numbered according to instructional level and course content. These criteria are applied in the following ways:

Instructional level

survey courses designed primarily for non-majors	100-199
survey courses designed primarily for majors	200-299
courses designed for students with general needs and not normally applicable	e to
graduate programs in geography	300–399
courses designed for students with special needs; prerequisites cited are strictly in	nter-
preted	400-499
courses for graduate students and qualified undergraduate students	500-599

Course content

Juise Content						
general courses:	00-09	(e.g.,	Geography	100	or	500)
physical courses:	10-29	(e.g.,	Geography	211	or	323)
regional courses:	30-49	(e.g.,	Geography	342	or	433)
human courses:	50-79	(e.g.,	Geography	250	or	367)
technical courses:	80-89	(e.g.,	Geography	280	or	381)
special studies:	90-99	(e.g.,	Geography	499	or	599)

BACHELOR OF ARTS IN GEOGRAPHY

The major consists of at least 36 units of geography, including no more than 13 units of lower division work and excluding all work applied toward the general education requirement. To fulfill the major a student must complete the geography core (Geography 100, 211, 250 and 280) and a 24 unit concentration in upper division geography, including at least one course from each of the following groups: *Physical, Regional, Human, Technical.*

No *unit* credit toward the major will be allowed for geography courses in which a grade of D is received. *Content* credit for such courses may be allowed by the student's adviser.

TEACHING MINOR IN GEOGRAPHY

The minor in geography is intended as a second field for persons completing a major in another discipline in preparation for a teaching credential. It is designed to give a basic understanding of earth science and geographic relationships helpful to the classroom teacher. The program provides a balance between the physical and social sciences.

The minor consists of at least 21 units of work in geography, including a minimum of nine units from the geography core (100, 211, 250 and 280) and a minimum of nine upper division units selected from at least three of the following groups: *Physical, Regional, Human, Technical.*

MASTER OF ARTS IN GEOGRAPHY

This program provides advanced study in geographic concepts, techniques and methods. Through seminars and research it develops the analytical and interpretive abilities of the student, and provides requisite background for employment in teaching, government and business.

Prerequisites

Admission to the program requires the equivalent of 27 semester units of geography distributed as follows: (1) nine units in introductory geography; (2) nine units in upper division physical and human geography, including at least three units in physical and three units in human geography; (3) six units in upper division techniques, including three units in cartography; and (4) three units in upper division regional geography. A 3.0 (B) average in all geography courses is required prior to classification in the program. Course or grade deficiencies may be made up with consent of the departmental graduate committee. After completion of all prerequisites and removal of deficiencies, if any, the student is reviewed for classification by the departmental graduate committee, which then supervises the student in the formulation of an official study plan.

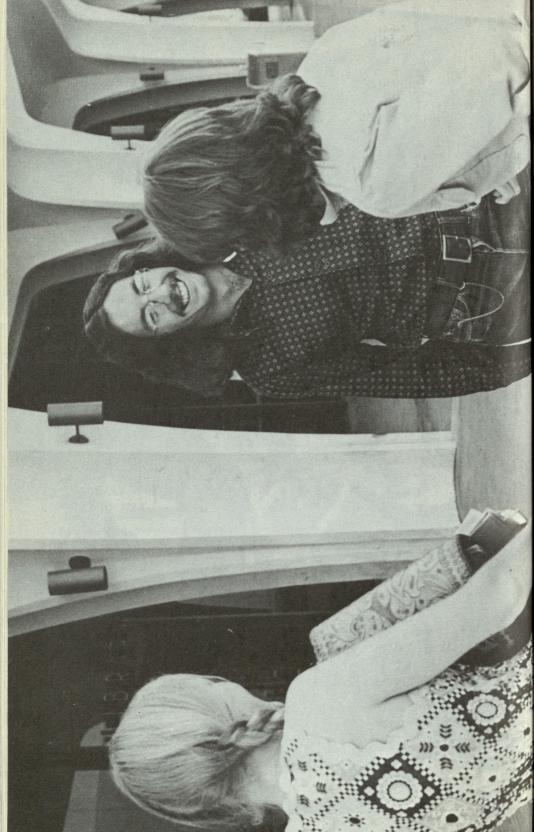
Study Plan	Units
Geography seminars	9-12
Geography 597 (Project) or Geography 598 (Thesis)	6
Elective upper division or graduate geography, including three units of technique	9-6
Upper division or graduate work in related fields	6
Total	30

Candidacy is attained on the satisfactory completion, i.e., B or better in all, of 12 approved units of work, including at least three units in a 500-level geography seminar. A written or oral examination may be required for advancement to candidacy. Each candidate normally prepares two three-unit research projects, but, if recommended by his personal committee, he may substitute a six-unit thesis. Students interested in foreign area studies are expected to demonstrate a proficiency in a suitable foreign language.

All graduate students are to confer with their adviser sometime during the first two weeks of each semester. For further information, consult the Department of Geography.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.





GEOGRAPHY COURSES

100 Man and the Land (3)

An introduction to world geography, with emphasis on the world's major regions and on their use and modification by man.

150 Environment in Crisis (3)

A geographic analysis and approach to the problems of man and his environment, dealing with man's interpretation of the environment and his use and misuse thereof. Factors of discussion will include population, nutrition, health, settlement, pollution, resource utilization and local environmental problems. Not acceptable on the geography major.

211 Physical Geography (4)

A study of the basic elements of the physical environment (e.g., weather, climate, landforms, oceans, vegetation and soils) and an analysis of their world distribution and interrelationships. (3 hours lecture, 2 hours activity)

250 Human Geography (3)

Systematic study of the elements of the man-made environment as correlated with their physical and cultural foundations (e.g., population distributions, sociocultural groupings, health and nutrition, land utilization, transportation and trade, allocation of land and territory, and rural and urban settlement).

280 Introduction to Geographical Analysis (3)

Prerequisite: Geography 100 or consent of instructor. Designed to help students interpret physical and human features and activities of the landscape. An understanding will be gained by first-hand field experience together with the utilization of graphics and written material. (1 hour lecture, 3 hours activity, two Saturday field trips)

312 Geomorphology (3)

Prerequisite: Geography 211 or Earth Science 101. A study of the development of landforms through an analysis of the processes that construct and modify them.

323 Weather and Climate (3)

Prerequisite: Geography 211 or consent of instructor. A study of atmospheric elements and controls, climatic classification systems, and world climatic distributions.

330 Geography of California (3)

Description and analysis of the geographic regions of California—their environmental diversity, population distribution, economic development and current problems.

332 Geography of Anglo-America (3)

Prerequisite: Geography 100 or consent of instructor. A regional study of the United States and Canada emphasizing the interrelated physical and cultural features that give geographic personality both to the individual regions as well as the individual countries.

333 Geography of Latin America (3)

Prerequisite: Geography 100 or consent of instructor. A systematic and regional survey of Middle and South America with particular emphasis on the interrelationships of the physical and social factors of the area.

336 Geography of Europe (3)

Prerequisite: Geography 100 or upper division standing. Description and analysis of physical environments and human occupance patterns in Europe west of the Soviet Union.

338 Geography of the Soviet Union (3)

Prerequisite: Geography 100 or upper division standing. Character of and bases for the regional diversity of man and land in the Soviet Union.

340 Geography of Asia (3)

Prerequisite: Geography 100 or consent of instructor. A regional study of Asian nations, exclusive of the Soviet Union and Southwest Asia, showing the interrelationships of physical and cultural characteristics with special emphasis on the growing significance, in economic, social and political terms, of such countries as China, India and Japan.

342 Geography of the Middle East and North Africa (3)

Prerequisite: Geography 100 or consent of instructor. The physical, human and regional geography of Southwest Asia and the coastal countries of Africa from Spanish Sahara to Somalia. Emphases will be placed on geographic considerations of Israel, Egypt and the Arabian Peninsula.

344 Geography of Subsaharan Africa (3)

Prerequisite: Geography 100 or consent of instructor. The physical, human and regional geography of Africa south of the Sahara.

346 Australia and the Pacific Islands (3)

Prerequisite: Geography 100 or consent of instructor. The physical, cultural, and regional geography of Australia, New Zealand, Melanesia, Micronesia and Polynesia.

350 Conservation of the American Environment (3)

Prerequisite: upper division standing. A survey of resource-use problems and the principles of conservation, with discussions of philosophy, ethics, public policy and environmental law.

355 Population Perspectives

Prerequisite: upper division standing. An introduction to spatial analysis of demographic variables with an emphasis on the economic and social factors influencing population distribution and mobility. World patterns will be discussed with an emphasis on the United States.

360 Economic Geography (3) (Formerly 260)

A systematic inquiry into the world distribution of economic activities: agriculture, extractive and manufacturing industries, transportation and tertiary services.

367 Political Geography (3)

Prerequisite: Geography 250 or consent of instructor. The political map of the world with special reference to the geopolitical structure of states, dependencies and other politically organized areas.

370 Urban Geography (3)

Prerequisite: upper division standing. The city as a geographic unit; urban settlements as regional centers; city-region relationships; the structure of villages, towns and cities, and their historical developments; case studies.

381 Cartography (3)

Prerequisite: geography core or consent of instructor. Compilation and construction of maps and graphs as geographic tools, with emphasis on the principles of effective cartographic representation. (1 hour lecture, 6 hours laboratory)

412 Regional Geomorphology of the United States (3)

Prerequisite: Geography 312. Examination of the major physiographic provinces of the United States. Special emphasis is placed on the record that present and past geomorphic processes have left on the landscape.

423 Physical Climatology (3)

Prerequisite: Geography 323 or consent of instructor. A study of selected topics in atmospheric science, including heat-transfer, atmospheric motion, synoptic and climatic analysis of weather data, and the effects of urban environment on the atmosphere. (2 hours lecture, 2 hours activity)

430 Problems of California Geography (3) Prerequisite: Geography 330 or consent of instructor. A seminar analyzing selected geographic problems of California, such as urbanization, transportation, water supply and pollution.

Man's Impact on the Southern California Environment (3)

Prerequisite: Geography 330 or consent of instructor. A seminar analyzing the Southern California environment and the geographic problems which have resulted from man's impact on the land and its resources.

433 Man and Geographic Relationships in Latin America (3)

Prerequisite: Geography 333 or consent of instructor. A seminar for advanced students in Latin American studies or geography. Studies of contemporary interest dealing with man and his development in the area of Latin America. Specific content of the course will vary from year to year, but major stress will be placed upon the larger countries of the region.

453 Cultural Ecology (3)

Prerequisite: upper division standing. A seminar for students in geography, related disciplines and in environmental studies. A topical treatment (e.g., nutrition, health, land tenure, technology) of the ecological approach to man-land relationships.

472 Urban Growth and Planning (3)

Prerequisite: Geography 370 or consent of instructor. A seminar on urban development with an emphasis on the decentralizing forces operating in contemporary urban space; identification of trends in the planning process.

477 Historical Geography

Prerequisite: geography core or consent of instructor. A seminar analyzing significant geographic influences on selected aspects of American history.

482 Advanced Cartography—Thematic Mapping (3)

Prerequisite: Geography 381 and consent of instructor. Application of photographic techniques and cartographic analysis to advanced problems in map compilation and design. (1 hour lecture, 6 hours laboratory)

484 Airphoto and Image Interpretation (3)

Prerequisite: junior, senior or graduate standing and consent of instructor. Use of aerial photography, space photography and other remote sensors as tools and research sources. Emphasis on interpretation of physical and cultural elements of the landscape. (2 hours lecture, 2 hours activity)

485 Quantitative Geography (3)

Prerequisite: geography core or consent of instructor. An introduction to spatial analysis and geographic application of basic concepts of descriptive and inferential statistics. Includes some use of the electronic computer. (2 hours lecture, 2 hours activity)

487 Research, Bibliography and Writing (3) (Formerly 587)

Prerequisite: senior standing or consent of instructor. Directed study in how to prepare a written report. Includes a consideration of the various resources (e.g., graphic, textual and statistical) and techniques (e.g., data-gathering, writing, documentation, editing) that geographers utilize in the preparation of manuscripts for presentation or publication.

488 Field Methods (3)

Prerequisite: Geography 280 and consent of instructor. Analysis and interpretation of urban and rural land use and settlement with specific references to geographic field problems. Application of geographic techniques and tools to local field studies. Saturday field sessions.

499 Independent Study (1-3)

Open to advanced students. Student must have consent of instructor under whom study will be undertaken before enrolling. May be repeated once for credit.

500 Seminar in the Evolution of Geographic Thought (3)

Prerequisite: graduate standing or consent of instructor. An inquiry into the nature, scope, and development of the geographic discipline.

530 Seminar in Regional Geography (3)

Prerequisite: graduate standing or consent of instructor. A seminar on selected regions or selected topics within a regional setting. May be repeated once for credit.

550 Seminar in Human Geography (3)

Prerequisite: graduate standing or consent of instructor. A seminar on selected topics pertaining to cultural, political or social geography. May be repeated once for credit.

560 Seminar in Resource Geography (3)

Prerequisite: graduate standing or consent of instructor. A seminar on selected problems in resource utilization, land use planning and economic geography. May be repeated once for credit.

571 Seminar in Urban Problems (3)

Prerequisites: graduate standing and consent of instructor. An in-depth study of selected urban problems. Topics will vary from semester to semester and will allow for concerns of the participants.

597 Project (3)

Prerequisite: advancement to candidacy and consent of adviser. May be repeated for a maximum of six units of credit.

598 Thesis (3-6)

Prerequisite: advancement to candidacy and consent of adviser. May be repeated for a maximum of six units of credit.

599 Independent Graduate Research (1-3)

Open to graduate students by consent of instructor. May be repeated for credit.

GEOLOGY

(See Earth Science under the Department of Science and Mathematics Education)

DEPARTMENT OF HISTORY

FACULTY

George Giacumakis

Department Chairman

George Baker, Gordon Bakken, Warren Beck, Leland Bellot, Lauren Breese, Giles Brown,* Lawrence de Graaf, Jack Elenbaas, George Etue, Robert Feldman, Thomas Flickema, Charles Frazee, Arthur Hansen, B. Carmon Hardy, Harry Jeffrey, James Jordan, Frederic Miller, Michael Onorato, Charles Povlovich, Jackson Putnam, Ronald Rietveld, Danton Sailor, Seymour Scheinberg, Gary Shumway, Cameron Stewart, Ernest Toy,* David Van Deventer, Nelson Woodard, Kinji Ken Yada, Ka-Che Yip, Cecile Zinberg

BACHELOR OF ARTS IN HISTORY

The study of history is indispensable to the education of civilized man. The undergraduate major in history is designed to provide cultural enrichment, a sense of alternative, and perspectives especially relevant to a society confronted with widespread institutional change. The department offers an extensive number of courses which expose the student to man's rich and diverse experience. In addition to subject matter, the department gives particular emphasis to various methodologies and ways of thinking about mankind's past. The major may be pursued to fulfill various professional and cultural objectives common to a liberal arts program. It serves, especially, as a preparation for teaching, law, government, and other services, and as the foundation for advanced study at the graduate level.

The undergraduate program for the history major contains three well defined levels of study: introductory, intermediate and advanced. At the introductory level, the student has the opportunity to enroll in topical or survey courses in various fields. At the intermediate level, the student builds on the foundations he has established in early study, extending his understanding and moving toward greater sophistication in the use of historical materials. At the advanced level, he will devote himself to seminar work and independent study in his area or areas of specialization, at which time he will be required to apply his knowledge and training in original and challenging ways.

The undergraduate major requires a total of 40 units: 13 in introductory classes and 27 in intermediate and advanced courses. At the primary level, each student is to enroll in History 100, Introduction to History. He must also complete four topical or survey offerings. At the intermediate level, History 399, Historical Methodology, must be taken along with 18 units, six each in the three fields of United States history; European history; and Latin American, Asian or African history. At the advanced level the student will be required to enroll in a research seminar and any other elective, at the upper division level, which he may choose.

Except for History 100, all courses offered in the department may be counted toward fulfillment of the general education and social science requirement for the bachelor's degree at this university. Beyond this, any American history class will satisfy the California State requirements in U.S. history.

Students majoring in history are encouraged to take work in other of the social sciences and humanities. Those intending to do graduate work in history should commence the study of at least one foreign language appropriate to the pursuit of advanced study in their particular specialty.

Program of Study for the Major

- 1. Introductory requirements: 13 units
 - A. History 100 (prerequisite for intermediate and advanced courses) *
 - B. Four courses (100–200 level) from three of the following four fields. These may be survey and/or topical courses:
 - 1. U.S. history (170A,B and/or 210 topic courses)

^{*} University administrative officer

Students transferring from accredited institutions who have completed nine or more semester units of work in introductory or survey history courses are exempt from this requirement.

- 2. European and ancient Mediterranean (110A,B and/or 220 topic courses)
- 3. Latin America, Asian and African (230, 240, 250 topic courses)
- 4. World or comparative history (101A, B and/or 260 topic courses)
- 2. Intermediate requirements: 21 units
 - A. History 399
 - B. At least six units of U.S. history
 - C. At least six units of European history
 - D. At least six units in Latin America, Asian or African history
- 3. Advanced Requirements: 6 units
 - A. History 490
 - B. Three units of elective beyond the introductory level

TEACHING MINOR IN HISTORY

The teaching minor in history is composed of units in history exclusive of the general education requirements:

Recommended teaching minor:	Units
Introductory courses	9
Electives at the intermediate and advanced levels	12
Total	21

MASTER OF ARTS IN HISTORY

The Master of Arts in History is designed to improve the student's academic and professional competence for educational services at the elementary, secondary and community university levels as preparation for advanced graduate work toward the doctoral degree in history. It is relevant to various other specialties in public or private enterprise and general cultural or community service. The program aims to deepen the students understanding of man's condition through a careful study of human experience.

Prerequisites

Prerequisite to this master's degree is an undergraduate major in history with at least a GPA of 3.0 in the upper division history courses. Each student's background and record are evaluated by the department graduate program adviser. Satisfactory scores on the aptitude test and the advanced test in history of the Graduate Record Examination are required.

Students with limited subject, grade, or breadth deficiencies may be considered for admission to the program upon completing courses approved by the graduate program adviser in history in addition to those required for the degree, with at least a B average.

Study Plan

Of the 30 units of adviser-approved graduate courses on the study plan for the degree, 18 must be in appropriate work at the 500-level, and six must be in other supportive social sciences or related fields. The required courses are:

History 501 Seminar in the Content and Method of History (3 units)

History 590 History and Historians (3 units)

Plan I:

A primary focus in one area in which a field is intensively developed. This results in a specific topic of research with a written thesis as the final product (History 598, Thesis: 3–6 units).

An oral examination on the thesis and the coursework will be required upon completion of the coursework but prior to the final draft of the thesis.

Plan II:

The focus in this plan is in two fields not found in the same general area. There is a minimum requirement of one graduate research seminar besides History 501 and 590. There is also a minimum requirement of one graduate reading seminar in the recent interpretations of history in the particular fields of interest.

A written comprehensive in each of the two fields will be required upon completion of the program.

Students in the History Department's graduate program must demonstrate a broad cultural understanding of one or more foreign countries relevant to the student's area of specialization. This requirement may be met by a reading knowledge of an appropriate foreign language or an approved selection of comparative studies (12 units post-B.A.), but the option chosen must be approved by the student's adviser. In certain programs, an examination in statistics may be substituted for the language requirement.

For further information, consult the Department of History.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

HISTORY COURSES

100 Introduction to History (1)

Designed to introduce the new history major to his academic discipline through exposure to the following topics: the uses and significance of history; the nature of history; areas and fields of history; the language and vocabulary of history; and methods of studying history. Required of all lower division majors.

101A World History to 1500 (3)

The history of mankind from earliest times to 1500 A.D. Special attention is given to the definition, evolution, and interaction of the major civilizations.

101B World History Since 1500 (3)

Global history during the past four centuries, with special emphasis on the interaction between the expanding West and the non-Western areas of the world.

110A Western Civilization to the 17th Century (3)

The study of man and Western institutions from their beginnings until the middle of the 17th century.

110B Western Civilizations from 1648 (3)

The study of man and the modernization of Western institutions from 1648 to the present.

170A United States to 1877 (3)

A survey of the political, social, economic, and cultural development of the United States to 1877.

Attention is given to Old World background, rise of the new nation, sectional problems, the Civil War and Reconstruction. Satisfies the state requirement in U.S. history.

170B United States Since 1877 (3)

A survey of U.S. history from the late 19th century to the present. Attention is given to economic transformation, political reform movements, social, cultural, and intellectual changes, and the role of the United States in world affairs. Satisfies the state requirement in U.S. history.

210 American Topical Courses (3)

Introductory American history courses.

220 European Topical Courses (3) Introductory European history courses.

230 Latin American Topical Courses (3)

Introductory Latin American history courses.

240 African Topical Courses (3)

Introductory African history courses.

250 Asian Topical Courses (3)

Introductory Asian history courses.

260 World or Comparative Topical Courses (3)

Introductory world or comparative history courses.

340 Ancient and Medieval Britain (3) (Formerly 340A)

The history of Britain from 55 B.C. to 1485. Emphasis on the constitutional, institutional and cultural aspects of Roman, Celtic, Anglo-Saxon, Norman and Plantagenet Britain.

341 Tudor-Stuart England (3)

The history of England from the accession of Henry VII to the Glorious Revolution. Emphasis on the political, institutional, ecclesiastical and cultural aspects of the period of the Tudors and Stuarts.

342 History of England and Great Britain (3) (Formerly 340B)

A study of the political, economic and social history of Great Britain from the later Stuarts to the present. Particular stress on the modification of the parliamentary system and the growth of economic and social democracy within Britain and upon the development of responsible political systems in the dependent territories.

350A Colonial Latin America (3)

A survey of the pre-Columbian cultures; the conquests by Spain and Portugal and the European background of these countries; the development of the socioeconomic, cultural, and governmental institutions in colonial life; the background of revolutions and the wars for independence.

350B Republican Latin America (3)

A survey of the Latin American republic since 1826, emphasizing the struggle for responsible government, socioeconomic, and cultural changes, and the role of U.S. foreign policy.

383 History of California (3)

A survey of the political, economic, and social history of California from the aboriginal inhabitants to the present, tracing the development of contemporary institutions and the historical background of current issues.

399 Historical Methodology (3)

A study of historical knowledge in relation to general knowledge; an introduction to the plurality of approaches in the analysis of history through the social sciences and humanities. Special emphasis will be placed upon the application of theory in historical investigations and upon forms of historical communication. Required of all majors.

401 European Intellectual History from 1500 to the Present (3)

Prerequisite: consent of instructor. The history of the competing ideas in European history from 1500 to the present which have entered into the formation of modern European institutions.

412A Ancient Near East-Mesopotamia (3)

Prerequisite: History 110A. A study of the political, socioeconomic, religious, and literary history of Mesopotamian culture from the rise of the Sumerian city-states to Alexander the Great, a period of over three millenia. This will include discussion of the Sumerians, Assyrians, Babylonians, Hurrians and Persians.

412B Ancient Near East—East Mediterranean (3)

Prerequisite: History 110A. A study of ancient Egypt from early dynastic times in the third millennium B.C. to the conquest of Alexander the Great. The history of the Syro-Palestinian region will be studied in light of its migrations an international culture. A careful study of the Hebrews and their contributions to modern civilization will be included.

415A Classical Greece (3)

Prerequisite: History 110A or consent of instructor. A study of the civilization of ancient Greece. This course traces the rise and flourishing of the classical city-states; considerable attention is devoted to the literary and philosophic contributions to our modern civilization.

415B Hellenistic Civilization (3)

Prerequisite: History 110A or consent of instructor. A study of the Hellenistic synthesis and the new patterns in government, the arts and sciences, philosophy and literature that appeared between the Macedonian conquest and the intervention of Rome.

417A Roman Republic (3)

Prerequisite: History 110A or consent of instructor. A study of the development of Roman social and political institutions under the republic.

417B Roman Empire (3)

Prerequisite: History 110A or consent of instructor. A study of Roman imperial institutions and culture. Attention is also given to the rise of Christianity.

419 The Byzantine Empire (3)

An historical survey of the East Roman Empire from Constantine to the Ottoman Conquest of 1453. Special attention to institutional aspects of Byzantine society: church, state, the economy, law and culture.

423A Medieval Europe, 300-1000 (3)

Prerequisite: History 110A or consent of instructor. The genesis of European society from the decline of Rome to the age of the Vikings. Particular attention is given to the transmission of classical elements into Christian thought and culture; to the barbarian migrations which culminated in the Carolingian Empire; and to the impact of the Vikings on Northern Europe.

423B Medieval Europe, 1000-1400 (3)

Prerequisite: History 110A or consent of instructor. A topical approach is employed with particular attention given to Normandy and the Norman Conquest, technology and social change, feudalism, Gothic art and Scholasticism.

425A The Renaissance (3)

The history of Europe from 1400 to 1525 with emphasis upon the beginnings of capitalism, the beginnings of the modern state, humanism, the pre-Reformation and the church on the eve of the Reformation.

425B The Reformation (3)

The history of Europe from 1525 to 1648; deals with the Protestant and Catholic Reformations; the religious wars; the price rise; royal absolution; the rise of science.

426 Rise of Modern Europe, 1648-1763 (3)

Prerequisite: History 1108. European diplomatic history and the balance of power from 1648 to 1763.

Attention is given to the social and philosophical developments of the period.

427 Europe in the Era of the French Revolution and Napoleon (3)

A survey of European history from 1763 to 1815. Emphasis is placed on the politics, society, and culture of the Old Regime, the influence of the Enlightenment, the impact of the French Revolution on Europe, and the establishment of French hegemony by Napoleon.

428 19th-Century Europe (3)

Europe from 1815 to 1914. An examination of the political, economic, social, and cultural trends in Eruopean history from the Congress of Vienna to the outbreak of World War I. Special attention is given to the emerging forces of nationalism, liberalism, socialism, and secularism.

429 Europe Since 1914 (3)

Prerequisite: History 110B. Survey of events from the beginning of World War I to the present. Special emphasis given to the economic, political, social, diplomatic, and intellectual trends of 20th-century Europe.

432 Germany Since 1648 (3)

Prerequisite: History 110A,B. The evolution of Germany from the Peace of Westphalia to the present. Emphasis is placed on political, social, economic, diplomatic and cultural trends in the 19th and 20th centuries.

434A Russia to 1890 (3)

Prerequisite: History 110B. An analysis of the historical developments from the establishment of the Russian state at Kiev through the great reforms, the revolutionary movement and reaction of the 19th century. Emphasis is placed upon the shaping of contemporary Russia.

434B The Russian Revolutions and the Soviet Regime (3)

Prerequisite: consent of instructor. An evaluation of the 1905 and 1917 revolutions and the subsequent consolidation of power under the Communist regime. Chief emphasis is placed upon the continuity and change in Russian social, political, cultural institutions and foreign policy effected by the impact of Marxist-Leninist-Stalinist ideology.

437 East Europe Since 1815 (3)

The political and social history of the east European peoples from the Congress of Vienna to the present.

439 History of Spain (3)

Development of Hispanic civilization from the earliest times to the present.

450 Change in Contemporary Latin America (3)

An analysis of political, social and economic change in present-day Latin America.

453A Mexico to 1910 (3)

A history of Mexico from the pre-Columbian period to 1910. The course stresses the Indian heritage, the impact upon the native civilizations of the Spanish Conquest and the blending of Hispanic Institutions with those of the first Mexicans. The uniqueness of Mexican culture in the world as expressed in its art, literature, religion and philosophy will be examined in detail.

453B Mexico Since 1910 (3)

A study of the background of the Mexican Revolution of 1910 and the revolution itself from 1910 to 1921 stressing the political, economic, and social features; special attention will be paid to the Revolution as the first of the great upheavals of the 20th century and the relationship of the United States to Mexico during these turbulent years. The quest for political stability in the 1920s and 1930s along with economic and social changes will be studied but stress will also be placed on cultural renaissance of modern Mexico.

454 Argentina, Brazil, Chile (3)

A history of Argentina, Brazil and Chile, with special attention to Chile.

456 Tropical Africa to 1900 (3)

The history of tropical Africa from earliest times to the colonial era.

457 Tropical Africa in the 20th Century (3)

A study of the impact of the colonial period upon the peoples of tropical Africa including a comparative analysis of the various systems of colonial administration; the factors contributing to the rise of African nationalism and the achievement of independence; and the problems encountered by these new nations.

458A Southern Africa from Earliest Times to the 20th Century (3)

A study of the culture and history of the indigenous peoples of southern Africa; and the development and impact of European interests in this area with particular emphasis on the history of South Africa to the Union of 1910.

458B Southern Africa in the 20th Century (3)

A survey of 20th-century developments in the Union (Republic) of South Africa, Central Africa (the Rhodesias and Nyasaland) and the Portuguese colonies with emphasis on the political, economic and social ramifications of race relations.

460 Problems of the Contemporary Far East (3)

A topics course dealing with events in the major Far Eastern nations since World War II, with emphasis upon problems of nationalism, communism and economic development in China, Japan, Korea and Southeast Asia.

461A The Far East (3)

A study of the political, social and economic conditions in China, Japan and Korea prior to World War I, as well as the rise of American power in the Far East.

461B The Far East (3)

A study of the developments in China and Japan that led to the Sino-Japanese conflict, Japan's decision to fight the United States, the rise of Communist China and the growth of postwar Japan.

462A History of China (3)

Chinese history from ancient times to the middle of the 17th century, with special attention to the development of society, thought, economy and political institutions.

462B History of China (3)

Chinese history from the middle of the 17th century to the 1950s. A study of China's internal developments and foreign intrusion, with special attention to the rise of modern Chinese nationalism and intellectual developments in the Republican period, as well as the attempts at modernization and the triumph of communism.

463A History of Japan (3)

A study of the social, political, and economic history of Japan until 1868, with emphasis upon the Tokugawa era.

463B History of Japan (3)

A study emphasizing the rise of the modern Japanese state, Japanese imperialism and the postwar era.

464A Southeast Asia in the Modern World (3)

A study of the social, political and economic development in Southeast Asia from 1500 to the establishment of the colonial empires of the West in the 19th century.

464B Southeast Asia in the Modern World (3)

A study of Southeast Asia under the impact of imperialism and the effects of decolonization.

465A History of India (3)

A survey of the history of the Indian subcontinent from ancient times to the fall of the first Islamic empire in India, 1526. In addition to political developments, the course includes an examination of evolving religious and social institutions: Hinduism, Buddhism, class and caste.

465B History of India (3)

A survey of the history of the Indian subcontinent from the beginning of the Mughul Empire, 1526 to the Indian Mutiny of 1857. The course includes an examination of European intrusions and the crystallization of British supremacy in India.

466A Arab Islamic Age (3)

Prerequisite: History 110A. The study of the events transpiring in the Middle East from the Roman world to the period of the Crusades. This will include the impact of the Islamic civilization upon the Middle East society.

466B The Turkish World (3)

Prerequisite: History 110B. The development of the countries of the Middle East following the Crusades to the present. This will include the Ottoman Empire, European colonialism in the Middle East, an the modern Middle East.

467 The Past and the Present in the Middle East (3) (Offered during some summer sessions only)

This course is a study tour to one of three geographical areas in the Middle East. The three areas which will be visited during three different summer periods of 22 days each, are: North Africa consisting of Morocco, Algeria, Tunisia, Libya and Egypt; the East Mediteranean consisting of Greece, Lebanon, Jordan, Israel and Egypt; and Turkey, Iraq and Iran. The objective of these study tours goes well beyond a visitation of important historical and archaeological sites, and stresses continuities and relationships of the past to the contemporary scene.

468 Contemporary Middle East (3)

A study of the social, political and economic changes taking place in the Middle East primarily since World War I. Where possible the Middle East will be treated as a whole and viewed through a topic-oriented approach.

470 American Colonial Civilization (3)

Prerequisite: History 170A or consent of instructor. This course analyzes the creation of societies in English North America from 1607–1754, stressing the emergence of economic, social and political patterns and structures in a maturing Anglo-American culture.

471 The United States From Colony to Nation (3)

Prerequisite: History 170A or consent of instructor. This course analyzes and describes the social, economic, political and intellectual developments in 18th century America, stressing the Anglo-American imperial problems leading to the revolution, the origins of American nationalism, the social structure of the new nation, the formation of the Constitution and the rise of a party system.

472 Jeffersonian Themes in American Society, 1800-1861 (3)

Prereqisite: History 170A or consent of instructor. Analyzes Jeffersonian values and their impact upon the social, political and cultural life of the nation during the era of their greatest relevance.

473 Democracy on Trial 1845-1877 (3)

Prerequisite: History 170A or consent of instructor. The study of America's "great national crisis" and the impact of slavery, civil war and national reconstruction upon the democratic process of the republic.

474 America in the Age of the Industrial Revolution (1876–1914) (3)

A study of the maturation of the American industrial economy and its transforming impact upon class structure, politics, intellectual and cultural life, and diplomacy. Special consideration is given to the attempts made in the Progressive years to cope with the changes wrought by the Industrial Revolution.

475 America Comes of Age, 1914-1945 (3)

A multi-topic analysis of major trends in U.S. domestic policy, foreign policy, economy and society from World War I through World War II. Course will concentrate on conflicting values and ideals of domestic policy and U.S. role in world affairs.

476 Age of Power, Affluence and Anxiety Since 1945 (3)

Multi-topic analysis of U.S. History from 1945 to the present stressing the interrelationship of foreign policy, economic prosperity, domestic tensions and protest movements.

479 The Emergence of Urban America (3)

A study of the historical development of urban life in America with special emphasis on the process of urbanization and the development of urban and suburban cultures.

480A Community History (3) (Formerly 492A)

Prerequisite: consent of instructor. A study of the historical development of communities in general, and of the Orange County area in particular. Special emphasis on the techniques of gathering and processing local historical data including oral interviews and other archival materials.

480B Community History (3) (Formerly 492B)

Prerequisite: History 480A. Community history studies continued. Special emphasis is on the gathering, editing and utilization of local community history documents.

481 Westward Movement in the United States (3)

Prerequisite: History 170A,B or equivalent. A survey of the expansion of the Unites States population and sovereignty from the eastern seaboard to the Pacific, colonial times to 1900, and a history of regional development during the frontier period.

482A Socioeconomic History of the United States (3)

Prerequisite: History 170A or consent of instructor. The course explores the interaction of social and economic factors upon each other in the development of American society. Special attention is given to the role of business and labor in economic change. The first semester covers the development of a colonial economy and the early national economy.

482B Socioeconomic History of the United States (3)

Prerequisite: History 170B or consent of instructor. The course continues to explore the interaction of social and economic factors upon each other in the development of American society. Special attention is given to the role of business and labor in economic change. The second semester begins with the "takeoff stage of economic development" and ends with contemporary America.

484A American Constitutional History to 1865 (3)

Prerequisite: History 170A. English and colonial origins, the growth of democracy, the slavery controversy, and the sectional conflict as they reflect constitutional development.

484B American Constitutional History from 1865 (3)

Prerequisite: History 170B. Constitutional problems involved in the post-Civil War era, the expansion of business, World War I, the New Deal, World War II, and civil rights in the postwar era.

485A United States Foreign Relations to 1900 (3)

A comprehensive survey of the foreign relations of the United States from the beginning of the nation until 1900. Particular attention is given to bases of policy, critical evaluation of major policies and relationships between domestic affairs and foreign policy.

485B United States Foreign Relations from 1900 (3)

Relations from 1900 to the present. An analysis of the rise of the United States as a world power in the 20th century with special emphasis on the search for world order and the diplomacy of the atomic age.

486A Social and Intellectual History of the United States (3)

A study of the social and intellectual development of the Unites States from the Puritans to the Civil War.

486B Social and Intellectual History of the United States (3)

A study of the social and intellectual development of the United States from the Civil War to the present.

487A History of Politics in American Society (3)

Prerequisite: History 170A,B or consent of instructor. The first semester of this course traces political developments from the Colonial Period to the end of the Civil War. Its primary focus is upon political patterns of behavior, institutional development and the response of the American political system to changing societal demands and needs.

487B History of Politics in American Society (3)

Prerequisite: History 170A,B or consent of instructor. The second semester of the course traces political developments from Reconstruction to Lyndon Baines Johnson. Its primary focus is upon political patterns of behavior, institutional development and the response of the political system to changing societal demands and needs.

488A American Negro From Slavery to Jim Crow (3)

A history of black Americans from African backgrounds through the era of slavery and the Civil War to the post-Reconstruction era.

488B American Negro Since 1890 (3)

History of black Americans from Booker T. Washington to present, stressing both their culture and role in American life and the issues involved in their relations with other segments of the population in various regions.

489 The Mexican-American in the Southwest (3)

Historical role of the Mexican-American in the Southwest stressing the cultural uniqueness, contributions, with special emphasis upon migration, education, and economic changes since 1945.

490 Senior Research Seminar (3)

Directed research seminar with class discussions applied to specific topics and areas as schedule and staff allow. Designed to give students experience in original research and writing. Required of all history majors.

491 Proseminar in Special Historical Topics (3)

Intensive study of trends, phenomena, themes or periods of history involving occasional lecture, discussion, directed reading, and student research.

495 Colloquium in History (3)

Interpretation and analysis of significant documents and works of history aimed at broad synthesis and mastery of major interpretations in an area. Involves extensive directed reading and discussion. Themes will vary according to instructor.

499 Independent Study (1-3)

Open to advanced students in history with consent of department chairman. May be repeated for credit.

501 Seminar in the Content and Method of History (3)

Prerequisite: consent of instructor.

505 Seminar in Recent Interpretations in History (3)

Prerequisite: consent of the instructor.

520 Seminar in European History (3)

Prerequisite: consent of the instructor.

550 Seminar in Latin American History (3)

Prerequisite: consent of the instructor.

560 Seminar in Afro-Asian History (3)

Prerequisite: consent of the instructor.

570 Seminar in American History (3)
Prerequisite: consent of the instructor.

585 Seminar in the History of United States Foreign Relations (3)

Prerequisite: consent of the instructor.

590 History and Historians (3)

Prerequisite: consent of instructor. A study of the writings, personalities, and philosophies of representative historians from Herodotus to the present.

598 Thesis (3 or 6)

Prerequisite: consent of instructor. May be repeated for credit.

599 Independent Graduate Research (1-3)

Open to graduate students in history with consent of department chairman. May be repeated for credit.

INTERDISCIPLINARY CENTER PROGRAM

FACULTY

Paul Obler

Director

William Lyon (Interdisciplinary Studies), Ricardo Organista, Miles McCarthy * (Biology), Som Sharma (English)

The Interdisciplinary Center was created out of the conviction that much of the real excitement happening in the intellectual world today (and probably other times as well) is at the boundary lines where traditional disciplines converge. The concrete reality of the human situation raises problems amenable to no facile descriptions or easy solutions—certainly none that any one discipline can yield. We are coming more and more to recognize the need for diverse perspectives—that whether we are confronting the immense complexity of the modern city or the subtle dimensions of love or anxiety, no single frame of reference or specialized knowledge can be sufficient.

Many of the courses now offered or planned by the center lie outside the province of any single department or academic discipline. They challenge students and professors alike to utilize their specialized knowledges and yet to go beyond them, A subject like love may be approached from historical, psychological, aesthetic or philosophical perspectives. Several courses (Psychology and Literary Criticism, Social Sciences and Humanities: A Critical Analysis) utilize the complementary methodologies of the physical sciences, social sciences, or humanities. It follows that interdisciplinary courses frequently involve two or more professors and feature guests from outside the academic community. Many courses are of a frankly experimental nature, often one-time journeys into strange seas, perhaps ill-fated. Many can be used as credits toward upper-level general education or are cross-listed with several majors. The center is interested in new courses or innovative programs; it originally sponsored the religious studies program; it recently participated in developing a proposal for a B.A. in Human Services. It welcomes suggestions from students or all other members of the academic community:

^{*} University administrative officer

INTERDISCIPLINARY CENTER COURSES

301 Psychological Approaches to Literature (3)

A development of the work of I. A. Richards begun in his *Practical Criticism*. Psychological experimentation relevant to understanding errors of interpretation, particularly interpretation of literary texts. Several experimental approaches to understanding errors in interpretation will be described and illustrated, including those of Piaget (errors of the child), Asch (structural factors of personality) and Adorno. Current therapeutic techniques for the development of attitude change.

303 Yoga (3)

A study of Yoga: its theories, literature and practices; some methods of meditation taught; its relevance for today's world.

310 Seminar in Human Sexuality (3)

The concept of sexuality as it relates to man, including data regarding sexual practices, their biological and social implications, and their relationship to population and the survival of the species.

315 Jazz: Past, Present and Future (3)

Jazz—its primitive and European roots; cross-cultural description of improvisation. Lectures, demonstrations, some concerts.

318 Character and Conflict: The Struggle for Autonomy (3)

An exploration—via lectures, discussion and group encounter—into the problems and techniques of resolving the conflicts created by the individual's struggle to achieve and maintain personal autonomy while living successfully in an automated world. Topics for exploration include the changing concepts of masculinity and femininity, love, marriage, sexual morality, encountering others.

351 Poverty in America (3)

A study of the extent, causes, consequences and possible cures of poverty in modern America. Poverty will be treated as, among other things, a political issue, and spokesmen from various political groups will lecture on their organization's approach to the poverty question. Lectures, discussion, some documentary films.

402 Art, Literature and the Development of Consciousness (3)

An application of theories of consciousness, particularly existential and Jungian, to poems, paintings and musical compositions. Intensive encounters between the individual and the art work; opportunities at checking one's own responses against those of others and exploring the significance of the differences. (Same as Comparative Literature 402)

403 The Quest for Self: East and West (3)

A comparative study of quest narratives which exemplify the Eastern and Western man's search for self-identity and fulfillment. Religious, psychological and literary texts will be used to help illuminate the comparison. (Same as Comparative Literature 403 and Anthropology 416)

404 The Nature of Love: Plato to Joyce (3)

An examination of the various dimensions of love as found in notable philosophical, psychological and literary works. (Same as Comparative Literature 404)

405 Psychoanalysis and Drama (3)

A detailed study of Freud's topographic and structural theories and their recent elaborations; the application of theory to selected readings in dramatic literature mainly, but also to some fiction, poetry and films. (Same as Comparative Literature 405)

410 Self-Actualization Group: Experiences in Human Growth (3)

Prerequisite: consent of instructor. Intensive small group experiences will assist each individual in unleashing his own growth potential and accelerating his own developmental processes. Self-actualization and related existential and humanistic concepts will be explored in depth, using recently developed methods. Lectures, individual assignments supplement the class experience.

411 Group Process and Leadership (3)

The impact of the individual personality on other persons in a group and what takes place in a group of people; the structure and process of a group; the influence of leadership. Learning experiences involving theories and concepts of those forces operating in a group situation, as well as a first-hand experiencing of one's own self in a group; feedback on how others see one in a group relation; and involvement in group dynamics.

412 Special Group Experiences (3)

Intensive group experience familiarizing the student with a practical encounter approach and its theoretical basis. Sections may be repeated for credit. *Open Couple*: An exploration of openness, intimacy and personal growth as aspects of the man-woman relationship. Ongoing concerns of enrolled couples are spring-boards for intensive experiences. Open to married and unmarried couples. *Transactional Group*: Self-actualization using Transactional Analysis. Selected readings to enhance personal growth and development. Ongoing group experience using Transactional Analysis, Gestalt techniques, poetry and other approaches to new self-awareness and personal decisions. *Special Social Group*.

418A,B Practicum in Group Leadership (3)

Prerequisite: Interdisciplinary Center 318. Practical experience in developing the ability to effectively lead other persons in their efforts to further both their own individual self-understanding and their ability to interact productively within a peer group.

419 Individual Personality (3)

Major theories of personality development, with emphasis upon the dynamics and modification of the autonomous individual personality.

421 Great 19th-Century Revolutionaries: Darwin, Marx, Freud (3)

Consideration of the three great 19th-century revolutionaries, Darwin, Marx and Freud, with a purpose of discovering the force of their impact on 20th-century society. Their major literary works will be discussed and their biographies studied to determine why they became revolutionaries.

422 Jewish and Comparative Mysticism (3)

A description and analysis of Jewish mysticism, and its comparison with other systems of mysticism from different cultures. (Same as Anthropology 422)

450 The Way (3)

An exploration of sensory awareness, interpersonal relations, dreams, body language through study and through laboratory sessions in Gestalt theory.

451 Philosophical Backgrounds of Modern Literature (3)

The connection between representative writers and such thinkers and philosophers as Freud, Spengler, Schopenhauer, Nietzsche and Kierkegaard. (Same as English 451)

452 Student Protest (3)

The dynamics of student protest with major attention given to contemporary activities in the United States. (Same as Political Science 417)

470 Seminar: Interdisciplinary Issues (3)

Concentrated study each year of a different key issue approached from an interdisciplinary view and frequently combined with two or three courses in other departments to form a nine-hour block.

499 Independent Study (1-3)

Supervised research projects to be taken with consent of instructor and program coordinator. May be repeated for credit.

799 Independent Study (1-3)

Supervised research projects to be taken with consent of instructor and program coordinator. May be repeated for credit.

LATIN AMERICAN STUDIES PROGRAM

FACULTY

William Ketteringham

Director

Oswaldo Arana (Foreign Languages), Nancy Baden (Foreign Languages), George Baker (History), David Feldman (Linguistics), Thomas Flickema (History), Paul Kane (Education), Martin Klein (Communications), John Lafky (Economics), Leroy Joesink-Mandeville (Anthropology), Neil Maloney (Earth Science), Ivan Richardson * (Political Science), Edgar Wiley (Management), John Yinger (Political Science)

^{*} University administrative officer

BACHELOR OF ARTS IN LATIN AMERICAN STUDIES

The B.A. in Latin American Studies is an interdisciplinary program organized and taught by faculty from numerous fields with special training and fieldwork in Latin America.

The program is designed for students desiring a general education with specific knowledge about Latin America. It is designed for students planning careers which will necessitate residence in or knowledge of Latin America, such as teaching, business, scientific research, engineering, journalism or government service. It is also designed for students who are planning to teach Spanish or social studies in the secondary schools. The program serves as a sound base for students preparing for graduate work in Latin American studies or in specific disciplines with a specialization in the region of Latin America.

Foundation Courses:

Language: All students in the program should develop a proficiency level in language measured by Spanish 204 and Portuguese 102. (This need may be met by completion of the above courses, their equivalents, or by passing requirements as stated by the Department of Foreign Languages and Literatures).

Required Core Courses:

Language: Spanish 317 Advanced Conversation and Composition (3)

or Portuguese 317 Advanced Conversation and Composition (3)

Literature: Spanish 441 Spanish American Literature from Modernismo to the Present (3) or Portuguese 441 Brazilian Literature (3)

History and Culture: Spanish 316 Introduction to Spanish American Civilization (3) or Portuguese 325 Introduction to Luzo-Brazilian Culture and Civilization (3)

History 350A Colonial Latin America (3)

History 350B Republican Latin America (3)

Recommended Selected Concentrations: 15 units selected from three or more of the following groupings:

Culture:

Portuguese 315 Introduction to Luzo-Brazilian Culture and Civilization (3)

Portuguese 317 Advanced Conversation and Composition (3)

or Spanish 317 Advanced Conversation and Composition (3)

Portuguese 325 Contemporary Brazilian Civilization (3)

or Spanish 316 Introduction to Spanish American Civilization (3)

Anthropology 322 Peoples of Mesoamerica (3)

Anthropology 324 Ancient Mesoamerica (3)

Anthropology 325 Peoples of South America (3)

Fine Arts and Literature:

Art 462 Art of Mesoamerica (3)

Art 471 Art of Central and South America (3)

Portuguese 441 Brazilian Literature (3)

or Spanish 441 Spanish American Literature from Modernismo to the Present (3)

Spanish 440 Spanish American Literature from The Conquest to 1888 (3)

Spanish 466 Introduction to Spanish Linguistics (3)

History and Politics:

History 450 Change in Contemporary Latin America (3)

History 453A Mexico to 1910 (3)

History 453B Mexico Since 1910 (3)

History 454 Argentina, Brazil, Chile (3)

Political Science 438 Latin American Interest Groups (3)

Geography and Economics:

Geography 333 Geography of Latin America (3)

Geography 433 Man and Geographic Relationships in Latin America (3)

Economics 330 Comparative Economic Systems (3)

Economics 333 Economic Development: Analyses and Case Studies (3)

Senior Seminar:

Latin American Studies 401 Contemporary Latin America (3)

LATIN AMERICAN STUDIES COURSES

For courses within the Latin American studies program which originate in other departments, the students should refer to the department originating the course for the description.

Anthropology

- 322 Peoples of Mesoamerica (3)
- 324 Ancient Mesoamerica (3)
- 325 Peoples of South America (3)

Art

- 462 Art of Mesoamerica (3)
- 471 Art of Central and South America (3)

Economics

- 330 Comparative Economic Systems (3)
- 333 Economic Development: Analyses and Case Studies (3)
- 411 International Trade (3)

Geography

- 333 Geography of Latin America (3)
- 433 Man and Geographic Relationships in Latin America (3)

History

- 350A Colonial Latin America (3)
- 350B Republican Latin America (3)
- 450 Change in Contemporary Latin America (3)
- 453A Mexico to 1910 (3)
- 453B Mexico Since 1910 (3)
- 454 Argentina, Brazil, Chile (3)

Latin American Studies

401 Contemporary Latin America (3)

Prerequisite: consent of instructor. An interdisciplinary team-taught senior seminar on topics relevant to contemporary Latin America. The exact content of the course will vary depending upon the faculty and present conditions within Latin America. May be repeated for credit.

Political Science

438 Latin American Interest Groups (3)

Portuguese

- 315 Introduction to Luzo-Brazilian Culture and Civilization (3)
- 317 Advanced Conversation and Composition (3)
- 325 Contemporary Brazilian Civilization (3)
- 441 Brazilian Literature (3)

Spanish

- 316 Introduction to Spanish American Civilization (3)
- 440 Spanish American Literature from The Conquest to 1888 (3)
- 441 Spanish American Literature from Modernismo to the Present (3)
- 466 Introduction to Spanish Linguistics (3)

DEPARTMENT OF LINGUISTICS

FACULTY

David Feldman

Department Chairman

Ralph Beckett (Speech Communication), Samuel Cartledge (Foreign Languages), Lawrence Christensen (Anthropology), Seth Fessenden (Speech Communications), Joseph Kalir, Alan Kaye, Thomas Klammer (English), Harvey Mayer (Foreign Languages), Irene Nims (English), Otto Sadovszky (Anthropology), James Santucci, Clarence Schneider (English), Donald Sears (English), William Smith (Psychology), Frank Verges (Philosophy), Jon Zimmermann (Foreign Languages)

Linguistics is the scientific study of language—its nature and development, its universal properties, its diversified structures and their dialectal variants, its acquisition by children and non-native speakers, its systems of writing and transcription, its cultural role in the speech community, and its application to other areas of human knowledge. As such, it is concerned with the multiple aspects of human communicative behavior which encompass thought, symbolization, language, meaning, acoustics, perception and the physiological processes of utterance and audition.

The interdisciplinary aspects of this study are reflected in the organization of the program which not only offers its own core of general linguistics courses but draws widely upon linguistically-related courses in other departments of the university.

BACHELOR OF ARTS IN LINGUISTICS

This program is designed for students with an exceptional interest in and aptitude for the study of the systems of human communication. It enables the undergraduate student to perceive the function of language in the development of civilization; to understand the essential relationships between language and thought and language and culture; to gain substantial familiarity with the structure of foreign languages as well as English; to observe several types of linguistic structures; and to become conversant with the historical study of language and formal techniques and theoretical foundations of linguistic analysis. The program will enable the student with linguistic and philological interests to grasp the scope of the entire field and, in addition, to determine more accurately the most meaningful concentrations in graduate study.

Lower Division Requirements

One year of Latin, Greek, Hebrew or Sanskrit (6)
Anthropology 202 Introduction to Cultural Anthropology (3)

Upper Division Requirements (minimum of 30 units)

317 Course in a modern foreign language (3)

Linguistics 341 Introduction to Phonetics (3)

Linguistics 406 Descriptive Linguistics (3) Linguistics 410 Language and Culture (3)

English 490 History of the English Language (3)

Linguistics 491 Linguistics in Relation to Other Disciplines (1)

Linguistics 530 Historical Linguistics (3)

Three electives (or more) from the following:

Education 312 Human Growth and Development (3)

Education 380 The Teaching of Reading (3)

English 303 Structure of Modern English (3)

French, German, Russian or Spanish 400 course (3)

French, German, or Spanish 466 course (3)

Linguistics 305 American Dialects (3)

Linguistics 375 The Philosophy of Language (3)

Linguistics 402 Phonetic Analysis of Speech (3)

Linguistics 403 Speech and Language Development (3)

Linguistics 411 Bilingualism (3)

Linguistics 412 Sociolinguistics (3)

Mathematics 304 Mathematical Logic (3)

Philosophy 368 Symbolic Logic (3)

Philosophy 450 Seminar in Philosophy of Language (3)

Physics 405 Acoustics (4)

Psychology 415 Cognitive Processes (3)

Quantitative Methods 364 Computer Logic and Programming (3)

Speech Communication 304 Message Reception and Analysis (3)

Speech Communication 340 Speech Science (3)

Students must consult with an adviser in linguistics before establishing their individual programs of study.

MASTER OF ARTS IN LINGUISTICS

The M.A. in Linguistics is designed for students who have exceptional interest in and aptitude for the study of the systems of human communication, reinforced by undergraduate study in linguistics and allied areas, such as foreign languages. English language, anthropology, speech communication and related areas in psychology and philosophy. It enables the graduate student to study in depth the position and function of human communication systems in the development of civilization; to understand more fully the essential relationships between thought, language and culture; to deepen mastery of the structure of foreign languages as well as English; to work intensively with several types of linguistic structures with special attention to non-Indo-European languages; and to increase expertise in the historical study of language and formal techniques and theoretical foundations of linguistic analysis.

The core courses of the program are devoted to an in-depth consideration of descriptive, historical and applied linguistics. The remainder of the program combines advanced work in: the theory of phonemic; morphological and syntactical analysis; articulatory and experimental phonetics; semantics; lexicology; dialectology; language typology; and field methods, in which the procedures of the linguist working under field conditions are demonstrated by the analysis of several languages elicited from informants. A variety of approaches to descriptive analysis and several theoretical points of view, both American and European, including generative grammar, transformational analysis and prosodics are presented. A series of courses on the structure of individual languages, both ancient and modern, provides opportunities for applying the general principles of structural analysis and for establishing linguistic data by elicitation from informants and analysis of written records. The languages examined will be drawn from a wide variety of language families including the more familiar members of the Indo-European group, General courses in comparative linguistics and comparison within individual language families review methods of establishing genetic relationships among languages. The geographical diffusion of linguistic features and problems of language contact are studied by examining areal groupings of genetically unrelated languages. The relationship between linguistics and other disciplines and the application of the techniques, findings, and insights of that science to such activities as language teaching are treated in interdisciplinary courses and seminars.

The aim of the graduate program in linguistics, as reflected in the course offerings, is to provide thorough and well-balanced training for practice and research in the several areas of linguistic studies and to prepare qualified students for careers in the communication sciences and allied disciplines.

Course requirements	Units
Coursework in descriptive, historical and structural linguistics	13

Linguistics 501 Research Methods and Bibliography (1) Linguistics 505 Phonological Analysis (3)

Linguistics 507 Seminar: Morphosyntax (3) Linguistics 508 Theories of Syntax (3)

Linguistics 530 Historical Linguistics (3)

Coursework selected from any one of the following six areas of subspecialization, including other courses in the department with the approval of the adviser

Applied Linguistics

English 303 The Structure of Modern English (3)

English 599 Independent Graduate Research (1–3)

Foreign Languages Ed 520 Advanced Seminar in Applied Linguistics (3)

French 466 Introduction to French Linguistics (3)

French 599 Independent Graduate Research (1–3)

German 466 Introduction to German Linguistics (3)

German 599 Independent Graduate Research (1-3)

Linguistics 305 American Dialects (3)

Linguistics 403 Speech and Language Development (3)

Linguistics 411 Bilingualism (3)

Linguistics 412 Sociolinguistics (3)

Linguistics 529 Linguistic Ontogeny (3)

Linguistics 565 Graduate Seminar: Major Language Families (3) Linguistics 575 Graduate Seminar: Current Issues in Linguistics (3)

Linguistics 584

Linguistics and Reading (3)

Linguistics 599 Independent Graduate Research (1-3) Spanish 466 Introduction to Spanish Linguistics (3) Spanish 599 Independent Graduate Research (1–3)

Anthropological Linguistics

Anthropology 599 Independent Graduate Research (1-3)

Linguistics 410 Language and Culture (3)

Linguistics 411 Bilingualism (3)

Linguistics 412 Sociolinguistics (3)

Linguistics 565 Graduate Seminar: Major Language Families (3) Linguistics 575 Graduate Seminar: Current Issues in Linguistics (3)

Linguistics 592 Field Methods (3)

Linguistics 593 Language Typology (3)

Linguistics 599 Independent Graduate Research (1-3)

Analysis of Specific Language Structures

French 466 Introduction to French Linguistics (3)

German 466 Introduction to German Linguistics (3)

Spanish 466 Introduction to Spanish Linguistics (3)

French 500 Graduate Seminar: Advanced Structure and Style (3) German 500 Graduate Seminar: Advanced Structure and Style (3)

Spanish 500 Graduate Seminar: Advanced Structure and Style (3)

French 510 Phonology (3)

German 510 Phonology (3)

Spanish 510 Phonology (3)

French 530 Historical Linguistics (3) German 530 Historical Linguistics (3)

Spanish 530 Historical Linguistics (3)

French 520 Old French (3)

English 570 Graduate Seminar: Language Studies (3)

English 599 Independent Graduate Research (1–3)

Spanish 599 Independent Graduate Research (1–3) French 599 Independent Graduate Research (1–3)

German 599 Independent Graduate Research (1–3) Linguistics 565 Graduate Seminar: Major Language Families (3)

Linguistics 565 Graduate Seminar: Major Language Families (3)
Linguistics 575 Graduate Seminar: Current Issues in Linguistics (3)

Linguistics 599 Independent Graduate Research (1-3)

Experimental Phonetics

Linguistics 402 Phonetic Analysis of Speech (3)

Linguistics 540 Seminar in Experimental Phonetics (3)

Linguistics 575 Graduate Seminar: Current Issues in Linguistics (3) Linguistics 599 Independent Graduate Research (1–3)

Physics 405 Acoustics (4)

Speech Communication 543 Major Problems in Speech Pathology and Audiology
(3)

Speech Communication 599 Independent Graduate Research (1-3)

Communication and Semantics

Anthropology 599 Independent Graduate Research (1-3)

Linguistics 411 Bilingualism (3)

Linguistics 412 Sociolinguistics (3)

Linguistics 504 Graduate Seminar: Semantics (3)

Linguistics 515 Graduate Seminar: Psycholinguistics (3)

Linguistics 529 Linguistic Ontogeny (3)

Linguistics 575 Graduate Seminar: Current Issues in Linguistics (3)

Linguistics 584 Linguistics and Reading (3)

Linguistics 599 Independent Graduate Research (1–3) Philosophy 450 Seminar: Philosophy of Language (3)

Speech Communication 599 Independent Graduate Research (1–3)

	Disorders of Communication	Units
	Linguistics 403 Speech and Language Development (3)	
	Linguistics 515 Graduate Seminar: Psycholinguistics (3)	
	Linguistics 529 Linguistic Ontogeny (3)	
	Linguistics 540 Seminar in Experimental Phonetics (3)	
	Linguistics 575 Graduate Seminar: Current Issues in Linguistics (3)	
	Linguistics 599 Independent Graduate Research (1–3)	
	Speech Communication 441 Speech Pathology: Nonorganic Disorders (3)	
	Speech Communication 443 Speech Pathology: Organic Disorders (3)	
	Speech Communication 451 Diagnostic Methods in Speech and Hearing (3)	
	Speech Communication 452 Therapeutic Procedures in Speech and Hearing (3)	
	Speech Communication 463 Audiology (3)	
	Speech Communication 464 Audiometry (3)	
	Speech Communication 557A-I Seminar in Speech Pathology (3)	
	Speech Communication 563 Seminar in Audiology (3)	
	Speech Communication 599 Independent Graduate Research (1–3)	
C	Coursework in a related field	6
	inguistics 597 Project (2)	2
	Total	30

A minimum of 15 units in 500-level courses is required. Also, satisfactory completion of written and oral comprehensive examinations will be required at the conclusion of the program.

Admission to the Graduate Program

In addition to fulfilling all general prerequisites for graduate work established at Cal State Fullerton, an applicant, in order to gain admission to this program, must hold a bachelor's or equivalent degree with a major in linguistics consisting of 24 upper division semester credit hours, or equivalent, in the field, with grades testifying to above-average scholarship from an accredited institution. Those having degrees with other related majors may be admitted if they have completed the following courses or their equivalents. These prerequisites may be fulfilled concurrently with graduate coursework in the program.

Linguistics 406 (3) English 490 (3)

Linguistics 410 (3)

Linguistics 491 (1)

Knowledge of one foreign language is required. Students without coursework in a foreign language may demonstrate proficiency by a score of "average" or better on the MLA-ETS Proficiency Examination for Advanced Students. Work toward fulfillment of this requirement may be taken concurrently with graduate coursework in linguistics.

For further information, consult the graduate coordinator of the Department of Linguistics.

See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

LABORATORY FOR PHONETIC RESEARCH

See description appearing on page 25.

For further information, consult the chairman of the Department of Linguistics. See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

LINGUISTICS COURSES

301 Sanskrit (3)

An introduction to the Sanskrit language, emphasizing the acquisition of reading fluency. The devanagari script, phonology, morphology and syntax will be examined in depth, along with relevant points on Hindu culture and on the place of Sanskrit in the development of the Indo-European language family.

302 Sanskrit (3)

Prerequisite: Linguistics 301 or equivalent. Continuation of 301, concentrating on the intensive and extensive reading of Sanskrit texts. Further development of the relationship between the Sanskrit language and Hindu culture will be complemented by an in-depth treatment of the genetic and typological relationships between Sanskrit and other languages of the Indo-European family. Special attention will be given to paleographic techniques and graphemics.

305 American Dialects (3)

(Same as English 305)

341 Phonetics (3)

(Same as Speech Communication 341, Theatre 341)

375 Philosophy of Language (3)

(Same as Philosophy 375)

402 Phonetic Analysis of Speech (3) (Same as Speech Communication 402)

403 Speech and Language Development (3)

(Same as Speech Communication 403)

406 Descriptive Linguistics (3)

Introduction to the nature of human linguistic behavior. Phonological, morphological, and syntactic structures of languages are examined through the use of techniques developed for the description of such structures.

410 Language and Culture (3)

(Same as Anthropology 410)

411 Bilingualism (3)

Prerequisite: Linguistics 406 or equivalent. The study of the personal and social development of bilingual communities as reflected in the conflict between the language of the home and the language of the community.

412 Sociolinguistics (3)

Prerequisite: Linguistics 406 or equivalent. The study of social dialects in relation to the surrounding communities. Topics include social stratification, acculturation, language maintenance, standardization, language planning and language change.

417 Introduction to Psycholinguistics (3)

(Same as Psychology 417)

491 Linguistics in Relation to Other Disciplines (1) (Formerly 490)

Open to all upper division students. The mutually contributing relationships between linguistics and the social and natural sciences, literature, music, psychology, philosophy, mathematics and language pedagogy.

499 Independent Study (1-3)

Supervised projects in linguistics to be taken with consent of department chairman as a means of meeting special curricular problems. Selection of topic to be studies varies with needs of the students enrolled. May be repeated for credit.

501 Research Methods and Bibliography (1)

Prerequisites: graduate standing and Linguistics 406, or equivalent. Introduction to principal books, periodicals, and collections in general linguistics, specific languages and related fields; techniques of preparing research papers and field reports in linguistics.

504 Graduate Seminar: Semantics (3)

(Same as Speech Communication 504)

505 Seminar: Phonological Analysis (3)
Prerequisite: Linguistics 406 or consent of instructor. Study of various kinds of phonological systems that occur in languages. Emphasis on practical problems in the phonetic and phonemic analysis of selected language data. (Same as Anthropology 505)

507 Seminar: Morphosyntax (3)

Prerequisite: Linguistics 406 or consent of instructor. The study of word formation and sentence construction in a variety of languages. Application of immediate constituent, tagmemic, and transformational analysis to selected linguistic data. (Same as Anthropology 507)

508 Theories of Syntax (3)

Prerequisite: Linguistics 507 or consent of instructor, Intensive and practical study of contemporary theories of grammar, with special emphasis on transformational, generative, logical and electromechanical bases and techniques of utterance analysis. (Same as Anthropology 508)

515 Graduate Seminar: Psycholinguistics (3)

Prerequisites: Linguistics 406 and 417 or equivalents. An examination of the behavioral, conceptual, motivational and social aspects of language, emphasizing recent developments in information theory, behavioral theory and linguistic theory as applied to human communication. (Same as Psychology 515)

529 Graduate Seminar: Linguistic Ontogeny (3)

Prerequisites: Linguistics 406 and 515, their equivalent, or consent of instructor, An intensive examination of the development of language and linguistic systems in the human species and in the individual from the viewpoint of contemporary linguistic analysis and theory. Special attention will also be given to non-verbal communication systems, paralanguage, and kinesics as languagerelevant communication media. Work with informants and experimental subjects in the Laboratory for Phonetic Research will complement the theoretical material.

530 Historical Linguistics (3)

Prerequisite: Linguistics 406, its equivalent, or consent of instructor. The history of language, also including principles and techniques for the historical study and classification of individual languages and language families, writing systems, lexicostatistical methods, and linguistic geography.

532 Indo European Linguistics (3)

Prerequisites: Linguistics 406 and 530, their equivalents, or consent of instructor. Linguistical analysis of Proto-Indo-European. Attention will be given to the later development and spread of the Proto-Indo-European language and the culture of the Indo-European language family.

540 Graduate Seminar: Experimental Phonetics (3)

(Same as Speech Communication 540)

565 Graduate Seminar: Major Language Families (3)

Prerequisite: Linguistics 406, its equivalent, or consent of instructor. The linguistic history and present structure of the world's major language families. Each semester a different language family will be studied and analyzed in terms of its synchronic and diachronic phonology, morphology, syntax and semantics, with collateral attention given to the relationships between the language family and the cultures with which it is associated. May be repeated for credit.

575 Graduate Seminar: Current Issues in Linguistics (3)

Prerequisite: graduate standing in the Department of Linguistics or consent of instructor. An intensive exploration of the latest research and development in linguistic theory, technique and methodology. May be repeated for credit.

584 Linguistics and Reading (3)

(Same as Education 584)

592 Field Methods (3)

Prerequisites: Linguistics 505 and 507 or consent of instructor. Methods of analysis and description of language structures. Data elicited from informants will be analyzed and described. Controlled study of a live informant's language. (Same as Anthropology 592)

597 Project (2)

Preparation and completion of an approved project.

599 Independent Graduate Research (1-3)

Prerequisites: graduate standing and consent of department chairman. May be repeated for credit.

DEPARTMENT OF MATHEMATICS

FACULTY

Edsel Stiel

Department Chairman

Dennis Ames, Russell Benson, Edwin Buchman, Joseph Bucuzzo, Michael Clapp, Russell Egbert, Robert Gauntt, Richard Gilbert, Vuryl Klassen, Vyron Klassen, Gerald Marley, John Mathews, Ronald Miller, Sam Pierce, Rollin Sandberg, Harris Shultz, Yun-Cheng Zee





BACHELOR OF ARTS IN MATHEMATICS

The program of studies in mathematics offers courses stressing the understanding of mathematical concepts and the axiomatic approach. A sufficient variety of courses is given to satisfy the needs of:

- 1. The proficient aiming toward graduate study
- 2. The student planning to use mathematics in a career in industry and government service
- 3. Preprofessional students in other science areas
- 4. The prospective elementary and secondary teacher

The major program is designed to provide a student with both depth and breadth in mathematics. It also prepares a student for subsequent graduate work in mathematics.

The applied option is designed to prepare a student for industrial employment in applied mathematics.

The teaching option is designed to prepare a student for the teaching of mathematics (credentialed) at the high school or elementary levels.

The science-language requirements for all mathematics majors are:

Physics 225A and 226A	Units 4
and either	
Thirteen Units (or their equivalent) of a modern foreign language, German, French or	13
Russian. (Note: for the Teaching Option—German, French, Russian or Spanish) or	13
Twelve units from one or several of the following categories	12

- 1. Additional courses from Physics 225B,C,D, and 226B,C and/or upper division physics
- 2. Chemistry 101A,B and/or upper division chemistry
- 3. Philosophy 368, Symbolic Logic, or Mathematics 304 * but not both
- 4. Quantitative Methods 264, Programming

Any mathematics major may, if he desires, satisfy his science-language requirements with the above courses rather than the courses prescribed in a previous catalog.

Each of these courses must be passed with a grade of at least C, hence none may be taken on a credit/no credit basis.

To qualify for the Bachelor of Arts in Mathematics, students must have at least a C in all mathematics courses required for the major.

The basic courses in mathematics may also be used to meet the general education requirements. Mathematics majors should take the lower division mathematics courses (150A, B, 250, 291) during the first two years. Furthermore, majors requiring advanced calculus (350A, B) should complete these courses before the senior year.

Major Program in Mathematics

Required courses:		Units
	etry and Calculus	8
Math 250 Intermediate Calcu	lus	4
Math 291 Linear Algebra		3
Math 306 Vector and Tensor	Analysis (
Math 307 Elementary Differe	ntial Geometry (choice)	3
Math 302 Modern Algebra		3
Math 350A,B Advanced Calc	ulus	6
Math 407 Abstract Algebra		
Math 412 Complex Analysis	Section value of the section of the	
Math 414 Topology	(choice of three)	9
Math 450 Real Analysis		
Any other 400-level course in	mathematics (exclusive of Math 496)	3
		_
		39

^{*} The student in the teaching option may not use Math 304 for credit in both the science-language requirements and as a major elective in mathematics.

Option in Applied Mathematics

Math 250		S
		uations \ Units
	Linear Algebra	
	Vector and Tensor Analysis)
		etry (choice)
Math 310		
Math 350A		
Math 302	Modern Algebra	
Math 335	Mathematical Probability	THE RESERVE OF THE PARK
Math 340	Numerical Analysis	the letter with the service to
Math 430	Partial Differential Equations	
Math 431	Methods of Applied Mathematics	(choice of four,
Math 435	Mathematical Statistics	at least two of
Math 440	Advanced Numerical Analysis	which must be 400-
Math 450	Real Analysis	level)
Math 412	Complex Analysis	

Option in Mathematics for Teacher Education for Elementary or Secondary Education

Required courses:	Units
Math 150A,B Analytic Geometry and Calculus	8
Math 250 Intermediate Calculus	4
Math 291 Linear Algebra	3
Math 302 Modern Algebra)	
Math 330 Number Theory (choice)	3
Math 315 Euclidean Geometry)	
Math 320 Projective Geometry (choice)	3
Math Ed 321 Problem Solving—Algebra	3
Math Ed 322 Problem Solving—Geometry	3
Math 335 Mathematical Probability)	
Math 336 Mathematical Statistics (choice)	3
Elective courses from Mathematics Department only, 300-level or higher (exclusive of Math 496)	9

Minor Program in Mathematics

A mathematics minor shall consist of 20 units of coursework selected from the courses offered by the Mathematics Department. They must include Mathematics 281 or 291 and at least six upper division units from the Mathematics Department. Each course must be completed with a grade C or better.

Minor Program in Mathematics for Teacher Education

A. For elementary education the minor shall consist of 20 units of coursework selected from the course listings in mathematics and mathematics education. These courses must include Mathematics 150B and Mathematics Education 103A.B.

B. For secondary education the minor shall consist of 20 units of coursework selected from the course listings in mathematics and mathematics education. These courses must include Mathematics 281 or 291 and six units of upper division courses in mathematics or mathematics education.

Bachelor of Science in Computer Science

The Department of Mathematics jointly offers the B.S. in Computer Science with the School of Engineering and the Department of Quantitative Methods. This degree program is administered by the Computer Science Council which consists of faculty members from each of the three areas. See page 168 for degree requirements.

Minor Program in Computer Science

Students majoring in mathematics may obtain a minor in computer science. For minor course requirements, see page 168.

Master of Arts in Mathematics

The M.A. in Mathematics is designed to provide advanced study for students interested in continuing studies for a Ph.D. in mathematics, high school and community college teaching, and mathematical analysis in industry.

Prerequisites

Prerequisites to the program include:

- (1) possession of a baccalaureate degree from an accredited institution;
- (2) an undergraduate major in mathematics or a combination of courses and work experience which the student's graduate committee evaluates as satisfactory preparation.

Students with limited preparation or grade deficiencies may be considered for admission to the program, upon completion of committee-approved courses with at least a B average.

Study Plan (for all except high school mathematics teachers)

The degree program requires 30 units of graduate study approved by the student's graduate committee. Sixteen of these units must be 500-level mathematics courses. Each student will be required to take electives to insure competence in algebra, analysis, topology and geometry. Nine units will be required outside the student's specialization, which may be taken in the Mathematics Department.

Proficiency in reading mathematics literature in an adviser-approved foreign language will be required before advancement to candidacy and before the department will recommend the awarding of the degree, the candidate must pass examinations (written and/or oral) designed to test his competence in the coursework he has taken.

For more detailed information or advisement, students should communicate with the chairman of the Department of Mathematics.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

Study Plan for Option in Mathematics for Secondary Schools

This option, designed for high school mathematics teachers, requires 30 units of graduate study approved by the student's graduate committee. The following 15 units of coursework must be included: Math 581, 582, 583, 590 and one unit of 597. Each student will be required to take electives to insure competence in algebra, geometry and analysis.

There is no foreign language requirement for this option. Before the department will recommend the awarding of the degree, the candidate must pass examinations designed to test his competence in the coursework he has taken.

Graduate courses required for this option will be offered during the summer. Courses will be scheduled so that a student may complete the degree requirements by attending classes during three successive summers. It should be noted that the student must be admitted to the university for a regular semester and must be enrolled at the time of receiving the degree.

For more detailed information or advisement, students should communicate with the chairman of the Department of Mathematics.

See also "The program of Master's Degrees," page 71, and the Graduate Bulletin.

MATHEMATICS COURSES *

100 Precalculus Mathematics (4)

Prerequisites: three years of high school mathematics, including one year each of algebra and geometry. A treatment of those elements of college algebra and trigonometry needed for a study of calculus. Designed exclusively for the student who plans to enter the regular calculus sequence, but who needs to strengthen his preparation in mathematics. Does not count as credit toward a mathematics minor.

110 Methods and Concepts of Mathematics (3)

Prerequisites: 2 years of high school mathematics, incuding one year of algebra and one year of geometry. Selected topics in algebra, number theory, geometry, set theory, probability and analysis with special emphasis on the ideas and methods involved. Designed specifically for non-science majors.

120 Elementary Probability (3)

Prerequisites: three years of high school mathematics or its equivalent. Topics include set algebra, finite probability models, sampling, binomial trials, conditional probability and expectation. It is particularly suited to students of economics, business, the biological, earth and social sciences.

130 A Short Course in Calculus (4)

Prerequisites: three years of high school mathematics, including second year algebra, and a passing score on the Mathematics Placement Examination. Elements of differential and integral calculus including sequences, limits, partial derivatives, differential equations, applications, and min-max problems. Designed for students of business, economics, the biological, earth and social sciences.

150A,B Analytic Geometry and Calculus (4,4)

Prerequisites: four years of high school mathematics inclusive of trigonometry, and a passing score on the Mathematics Placement Examination. An introduction to analysis including vector algebra, analytic geometry, functions, limits, differentiation, the definite integral, techniques of integration, first order differential equations, applications.

230 Elementary Probability and Statistics (3)

Prerequisites: Math 130 or 150B. An introduction, using calculus, to the elements of probability and statistics. Designed for students of business, economics, the biological, earth and social sciences.

250 Intermediate Calculus (4)

Prerequisites: Math 150A,B or equivalent. A continuation of Math 150. Topics include functions of several variables, partial differentiation, curvilinear integrals, multiple integration, infinite series, Taylor's theorem, linear differential equations.

281 Linear Algebra with Differential Equations (3)

Prerequisite: Math 250. An introduction to linear algebra with particular application to the theory of ordinary differential equations. Topics include: vector functions, vector spaces, linear transformations, systems of linear algebraic and differential equations, matrices, determinants, eigenvectors and eigenvalues, applications to physical systems, series solutions of differential equations. Intended for students in the physical sciences and engineering.

291 Linear Algebra (3)

Prerequisite: Math 150B. The study of matrices, determinants, vector spaces, linear transformations.

302 Modern Algebra (3)

Prerequisites: Math 281 or 291. The integers, rational numbers, real and complex numbers, polynominal domains, introduction to groups, rings, integral domains and fields.

304 Mathematical Logic (3)

Prerequisite: Math 150B. An introductory course in the elements of mathematical logic.

305 Elements of Set Theory (3)

Prerequisites: Math 250 and 281 or 291. Operations on sets; functions; cardinals and ordinals; ordering, well ordering; axiom of choice; transfinite numbers.

306 Vector and Tensor Analysis (3)

Prerequisites: Math 250 and 281 or 291. Analysis of vector fields; Green's, Gauss' and Stokes theorems. Introduction to tensor analysis. Applications to geometry, mechanics and electromagnetism.

^{*} Prerequisites may be waived in any mathematics course by consent of instructor.

307 Elementary Differential Geometry (3)

Prerequisites: Math 250 and 281 or 291. The differential geometry of curves and surfaces in Euclidean 3-space. Differential forms in 3-space. Cartan's equations of structure. Gauss-Weingarten-Codazzi equations.

310 Ordinary Differential Equations (3)

Prerequisites: Math 250 and 281 or 291. An introduction to existence theorems and the theory of ordinary differential equations.

315 Euclidean Geometry (3)

Prerequisite: Math 250. Selected topics in advanced Euclidean geometry such as convexity, transformation theory and *n*-dimensional Euclidean space.

320 Projective Geometry (3)

Prerequisite: Math 281 or 291. Homogeneous coordinates, projective group, cross-ratio, duality, point and line conics.

330 Number Theory (3)

Prerequisite: Math 250 or 281 or 291. Divisibility, congruences, prime number theory, Diophantine problems.

335 Mathematical Probability (3)

Prerequisite: Math 250. An introductory course in probability theory and its applications, based on use of the calculus.

340 Numerical Analysis (3)

Prerequisites: Math 250, and 281 or 291, and a knowledge of computer coding. Solution of systems of nonlinear equations. Approximation and interpolation. Numerical differentiation, integration, and solution of ordinary differential equations. Difference equations. Error analysis. Computer coding of numerical methods.

350A,B Advanced Calculus (3,3)

Prerequisites: Math 250 and 281 or 291. Designed to introduce the student to rigorous proofs in analysis. Topics include continuity, differentiation and integration of functions of several variables, improper integrals, sequences and infinite series.

407 Abstract Algebra (3)

Prerequisite: Math 302. Sets, mappings, groups, rings, modules, fields, homomorphisms, advanced topics in vector spaces and theory of linear transformations, matrices, algebras, ideals, field theory, Galois theory.

412 Complex Analysis (3

Prerequisite: Math 350A. Complex differentiation and integration, Cauchy's theorem and integral formulas, maximum modulus theorem, harmonic functions, Laurent series, analytic continuation, entire and meromorphic functions, conformal transformations and special functions.

414 Topology (3)

Prerequisite: Math 350A. An introductory course in point set and algebraic topology.

430 Partial Differential Equations (3)

Prerequisite: Math 350B or consent of instructor. Cauchy-Kowalewsky and other existence theorems, theory of first order equations, classification of equations of higher order, detailed study of elliptic, hyperbolic and parabolic equations, applications of functional analysis to partial differential equations.

431 Methods of Applied Mathematics (3)

Prerequisite: Math 350A or consent of instructor. Calculus of variation, partial differential equations of physics, Fourier series and orthogonal functions, integral transforms.

435 Mathematical Statistics (3) (Formerly 336)

Prerequisite: Math 335. An introductory course in statistical theory and its applications, based on the use of calculus.

440 Advanced Numerical Analysis (3)

Prerequisites: experience in computer coding and either Math 306, 340 or 350A. Numerical solution of systems of linear equations, matrix inversion, computation of eigenvalues and eigenvectors, and solution of partial differential equations. Error analysis. Computer coding of numerical methods.

450 Real Analysis (3)

Prerequisite: Math 350B. An introduction to Lebesgue measure and integration and selected topics from the following: metric spaces, compact and perfect sets, Cantor's ternary set, limes inferior and superior, discontinuities, functions of bounded variation, Riemann-Stieltjes integral, families of continuous functions, equi-continuity, Stone-Weierstrass theorem, convergence of Fouries series, inverse and implicit function theorems, functional dependence.

496 Student-to-Student Tutorials (1-3)

See page 94.

499 Independent Study (1)

Prerequisite: consent of instructor. Study of some special topic in mathematics, selected in consultation with the instructor and carried out under his supervisions.

506 Seminar in Number Theory (3)

Prerequisites: Math 302, 330, 350B or consent of instructor. Selected topics in analytic and algebraic number theory. May be repeated for credit.

507 Topics in Abstract Algebra (3)

Prerequisites: Math 407. Modules, algebras, ideal theory, field theory, Galois theory, categories, functors, homology.

508 Seminar in Algebra (3)

Prerequisite: Math 407 or consent of instructor. Structure theory of rings, algebras, field and Galois theory. Homological algebra. Research topics in algebra. May be repeated for credit.

512 Complex Analysis (3)

Prerequisite: Math 412. Special topics in complex analysis including analytic functions of several variables, special functions, conformal mapping and Riemann surfaces.

514 Topology (3)

Prerequisite: Math 414. Advanced point set and algebraic topology.

515 Seminar in Advanced Topology (3)

Prerequisite: consent of instructor. Advanced areas in topology in preparation for research work. May be repeated for credit.

520 Lebesgue Measure and Integration (3)

Prerequisite: Math 350B. Lebesgue measure and integration on the line and in *n*-space. Topics incude the dominated convergence theorem, absolute continuity, convergence in measure and in mean, differentiation and Fubini's theorem.

525 Differential Geometry (3)

Prerequisite: Math 414. Differentiable manifolds, connections, curvature, torsions, covariant differentiation, topics in Riemannian geometry.

526 Seminar in Geometry (3)

Prerequisite: graduate standing and consent of instructor. May be repeated for credit.

530 Topics in Applied Mathematics (3)

Prerequisite: consent of instructor. May be repeated for credit.

531 Seminar in Applied Mathematics (3)

Prerequisite: consent of instructor. Advanced topics in applied mathematics. May be repeated for credit.

550 Topics in Real Analysis (3)

Prerequisite: Math 450. General theory of measure and integration, set functions, theorems of Radon-Nikodym and Fubini.

551 Seminar in Analysis (3)

Prerequisite: consent of instructor. A semester graduate course in analysis. Advanced topics in real and complex analysis. May be repeated for credit.

560 Functional Analysis (3)

Prerequisite: Math 450; corequisite: Math 414. Topics in modern functional analysis including Hilbert and Banach spaces, linear transformations and spectral theory.

580 Junior High School Mathematics from an Advanced Standpoint (3)

Prerequisites: graduate standing plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the junior high school mathematics curriculum correlated with a seminar on current junior high school mathematics programs.

581 High School geometry from an Advanced Standpoint (4)

Prerequisites: graduate standing plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the high school geometry curriculum, correlated with a seminar on current high school geometry programs.

582 High School Algebra from an Advanced Standpoint (4)

Prerequisites: graduate standing plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the high school algebra curriculum, correlated with a seminar on current high school algebra programs.

583 Precalculus High School Mathematics from an Advanced Standpoint (4)

Prerequisites: graduate standing plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the high school precalculus curriculum (primarily trigonometry and analytic geometry), correlated with a seminar on current high school precalculus programs.

584 Elementary Analysis from an Advanced Standpoint (3)

Prerequisites: graduate standing plus one year of full-time teaching in high school mathematics. The content and methods of mathematics related to the high school curriculum in analysis, correlated with a seminar on current high school programs in analysis.

590 Seminar in Secondary Mathematics (2)

Prerequisites: graduate standing plus one year of full-time teaching in junior or senior high school mathematics. An analysis of current issues, programs and proposals within secondary mathematics. May be repeated for credit.

597 Project (1-3)

May be repeated for credit.

599 Independent Graduate Research (1-3)

Prerequisite: graduate standing. One unit of independent study required of each student for each regular graduate course. Also offered without being attached to any course. May be repeated for credit.

METEOROLOGY

(Offered by the Department of Science and Mathematics Education and the Department of Geography)

See departmental descriptions for the following courses:

Earth Science

401 Studies in Earth Science (3-6)

Geography

323 Weather and Climate (3)

423 Physical Climatology (3)

NATIVE AMERICAN STUDIES PROGRAM

FACULTY

Lawrence Christensen (Anthropology), John Dougherty (Dance), Wacira Gethaiga (Afro-Ethnic Studies), Fred Katz (Anthropology), Robert Rence (Theatre), Gerald Rosen (Sociology), Otto Sadovszky (Anthropology), Priscilla Shames (English), Gary Shumway (History), Alexander Stupple (English), Imre Sutton (Geography), Norman Townshend-Zellner (Economics)

PART-TIME

Jack Allen

COUNSELORS

Richard Hernasy, Beth Voien

The native American studies program, now in development, anticipates bringing together interested students—Indian and non-Indian—and faculty in a mutual effort to provide instruction in and dialogue on the status, condition and destiny of Indians in contemporary America. As now envisioned, the program would include Indian-oriented courses dedicated to an Indian interpretation of tribal experience in America as well as related courses on Indian themes, including several already

being offered, as developed by interested faculty in other academic departments.

The intent is to create an academic environment that would stimulate students and faculty alike to exchange ideas and knowledge about native Americans and to establish, in a sense, a center for interaction on campus, which, in turn, would be guided by Indian counselors. Another objective of the program is to provide special kinds of instruction to reinforce the Indian student's comprehension of tribal problems and to define areas of solutions students might pursue allied to their degree objectives on campus. Indian students should be apprised of the fact that Educational Opportunity Program and Bureau of Indian Affairs funding may be available to them through the university Financial Aid Office. It is expected within a year or two that this program will be expanded by the addition of several new "core" as well as "related" courses.

Core Course:

Afro-Ethnic Studies 230 The Native American (3)

Related Courses:

Anthropology 321 The American Indian (3)

Anthropology 460 Culture Change (3)

Art 461 Art of North American Indian (3)

Dance 476A.B History of Dance (3.3)

Economics 334 Economics of Poverty, Race and Discrimination (3)

English 320 Literature of the American Indian (3)

English 421 Minority Images in American Literature (3)

Sociology 431 Minority Group Relations (3)

OCEANOGRAPHY

(Offered by the Department of Biological Science and the Department of Science and Mathematics Education)

(See departmental descriptions for the following courses)

Biological Science

325 Marine Biology (4)

420 General Oceanography (3)

421 Biological Oceanography (4)

426 Marine Ecology (4)

520 Seminar in Marine Science (3)

Earth Science

110 Introduction to Physical Oceanography (3)

401 Studies in Geoscience, Geofluids (2-6)

DEPARTMENT OF PHILOSOPHY

FACULTY

Department Chairman

William Alamshah, Ernest Becker,* John Cronquist, Gloria Rock, J. Michael Russell, Richard Smith, Frank Verges

BACHELOR OF ARTS IN PHILOSOPHY

The major in philosophy is designed to provide the undergraduate student with (1) information about the achievements of the world's outstanding philosophers in the analysis and resolution of philosophic issues, and (2) some measure of skill in analyzing and resolving such issues as they arise in his own areas of interest. Courses in philosophy are selected to provide both breadth and depth in exploring and analyzing philosophic concerns.

^{*} University administrative officer

Requirements for the Major

- 1. A minimum of 30 units in philosophy.
- 2. Lower Division (Maximum of six units beyond general education requirements)

Philosophy 290 (3)

Philosophy 291 (3)

Note: Students who have taken their lower division work elsewhere will be given credit for equivalent coursework. Up to six units of such coursework may be allowed for credit at the discretion of the department.

3. Upper Division (Minimum of 24 units)

Philosophy 300 (3)

Philosophy 301 (3)

At least nine units at the 400 level, to include: at least one seminar (3); Philosophy 499 (3); a 400-level elective other than a seminar (3).

A program in philosophy profits greatly through the study of literature, psychology and the social sciences. Students of philosophy are advised to supplement their studies in philosophy with coursework offered in these fields. Philosophy majors are urged to acquire proficiency in a foreign language.

MINOR IN PHILOSOPHY

Requirements for the Minor

- 1. A minimum of 21 units in philosophy.
- 2. Lower Division (Maximum of nine units beyond general education requirements)

Philosophy 290 (3)

Philosophy 291 (3)

3. Upper Division (Minimum of 12 units)

Philosophy 300 (3)

Philosophy 301 (3)

PHILOSOPHY COURSES

100 Introduction to Philosophy (3)

An introduction to the nature, methods and some of the main problems of philosophy.

110 Comparative Study of the World's Great Religions (3)

A study of man's religious impulse as viewed from the philosophical standpoint. An attempt will be made to analyze and to compare religious experience as expressed in Christianity, Islam, Buddhism, Hinduism, etc.

210 Logic (3)

Analysis of the various forms given to propositions and the basic requirements necessary for valid inference. Designed primarily for humanities and social science majors. Quantitative methods. engineering, science, linguistics, mathematics and philosophy majors are advised to take Philosophy 368, First Course in Symbolic Logic, rather than Physics 210.

250 Philosophy of Ideas (3)
Analysis of basic ideas which have shaped modern thought. May be repeated with different content for additional credit.

290 History of Philosophy: Greek Philosophy (3)

The origins of philosophy in Greece, and its development to the time of Socrates, Plato and Aristotle.

291 History of Philosophy: Medieval Philosophy (3)

Scholastic philosophy and its precursors in ancient thought.

300 History of Philosophy: Rationalism and Empiricism (3)

The rationalism of Descartes, Spinoza and Leibniz, and the empiricism of Locke, Berkeley, and Hume.

301 History of Philosophy: Kant and the 19th Century (3)

The empiricistic and rationalistic influences on Kant, followed by a study of the major trends in 19th-century philosophy.

305 Contemporary Philosophy (3)

A survey and analysis of the main trends of 20th-century philosophy. Emphasis will be placed on such trends as pragmatism, linguistic analysis, and existentialism.

310 Ethics (3)

An analysis of the problems of human conduct: motivation, valuing, norms, social demands and personal commitments.

311 Aesthetics (3)

An investigation into the conditions and the aims of art and aesthetic experience.

323 Contemporary Existentialism (3)

An analysis of the meaning of existentialism in modern philosophy.

345 Political Philosophy (3)

Selected problems in political philosophy.

347 Selected Problems in Philosophy (3)

An investigation into the significant contributions made to human culture through philosophic analysis. May be repeated with a different content for additional credit.

360 Philosophy of History (3)

A study of the metaphysical and the logical problems of history.

365 Social Philosophy (3)

Philosophical (logical) analysis of theories of social organization and rigorous investigation of the various types of social, economic and cultural institutions which make up western society.

368 First Course in Symbolic Logic (3)

The recognition and construction of correct deductions in the sentential logic and the first-order predicate calculus with identity.

369 Second Course in Symbolic Logic (3)

Prerequisite: Philosophy 368 or equivalent. Continuation of the study of the recognition and construction of correct deductions in the full first-order predicate calculus with identity and the calculus of descriptions. Detailed examination of axiomatized deductive systems of propositional calculus.

370 Philosophy of Religion (3)

An examination of the role of philosophy in shaping theological doctrine, in critically evaluating religious experience, in proving the existence of God, and in considering the issues of atheism and the existence of evil.

373 Philosophy in Literature (3)

Exploration of philosophical themes in literature. Emphasis on recent American novels, although British and continental authors will also be read and discussed.

375 Introduction to Philosophy of Language (3)

An introduction to the major issues in semantical theory: truth, meaning, analytic-synthetic, semiotics. (Same as Linguistics 375)

380 Analytic Philosophy (3)

Prerequisite: six units in philosophy or consent of instructor. A detailed investigation of the works of some of the many figures of the 20th-century movement in analytic philosophy. The works of Russell, Moore, Wittgenstein, Strawson, Ryle will be read.

385 Philosophy of the Social Sciences (3)

Problems posed by methodological developments in psychology, sociology, anthropology, economics, political science and history. Topics such as objectivity and value judgments in social science, Verstehen, emergence, explanation, models and theories will be studied. The concepts of reductionism and functionalism will be examined. Some acquaintance with the behavioral sciences is presupposed.

420 Metaphysics (3)

Prerequisite: six units in philosophy or consent of instructor. An examination of the philosophical problems of freedom and determinism, mind and body, time and becoming, causation, deity, substratum, personal identity.

425 Introduction to Phenomenology (3)

Prerequisite: six units in philosophy or consent of instructor. An investigation into the historical background and basic viewpoints which have provided a framework for philosophical research and study in the writings of Husserl, Heidegger, Sartre, and Merleau-Ponty.

430 Epistemology (3)

Prerequisite: six units in philosophy or consent of instructor. An investigation of the concepts of knowledge, belief and certainty, and a study of representative theories concerning man's knowledge of the external world, the past, and other minds.

435 Philosophy of Science (3)

Prerequisite: six units in philosophy or consent of instructor. An investigation into the methodologies of the deductive and inductive sciences.

440 Philosophy of Mind (3)

Prerequisite: six units in philosophy or consent of instructor. Basic problems relating to the analysis of the concept of mind and such related issues as behavior, consciousness, and voluntary action.

444 Seminar in Ethical Theory (3)

Prerequisite: six units in philosophy or upper division standing; Philosophy 310 recommended. Examination of some prominent theories regarding the analysis of such concepts as right action, goodness, duty, and the justification of ethical beliefs. May be repeated with a different content for additional credit.

445 Seminar in Value Theory (3)

Prerequisite: Philosophy 310 or consent of instructor. An investigation into the conditions, modes, levels, and criteria relevant to any systematic view of valuing.

450 Seminar in Philosophy of Language (3)

Prerequisite: six units in philosophy or consent of instructor. A detailed examination of the problems in the theory of meaning and formal semantics.

457 Seminar in Ancient Philosophy (3)

Prerequisite: Philosophy 290 or consent of instructor. A detailed examination of the works of some major ancient philosopher, such as Plato or Aristotle, or of some school of ancient philosophy, such as Stoicism. May be repeated with different content for additional credit.

467 Seminar in Continental Rationalism (3)

Prerequisite: Philosophy 300 or consent of instructor. A detailed examination of the works of some major rationalist, such as Descartes, Spinoza or Leibniz, or some school or phase of continental rationalism. May be repeated with different content for additional credit.

468 Seminar in Advanced Symbolic Logic (3

Prerequisite: Philosophy 369 or equivalent. Detailed examination of axiomatized systems of deduction covering such areas as the propositional and predicate calculi and alternative systems of logic. Topics in philosophical logic and free logic. May be repeated with a different content for additional credit.

477 Seminar in British Empiricism (3)

Prerequisite: Philosophy 300 or consent of instructor. A detailed examination of the works of some major British empiricist, such as Locke, Berkeley, or Hume, or of some school or phase of British empiricism. May be repeated with different content for additional credit.

487 Seminar in Modern Philosophy (3)

Prerequisite: Philosophy 301 or consent of instructor. A detailed examination of the works of some major modern philosopher, such as Kant, Hegel, Nietzsche or J. S. Mill, or of some school or phase of modern philosophy to around the end of the 19th century. May be repeated with different content for additional credit.

497 Seminar in Contemporary Analytic Philosophy (3)

Prerequisite: Philosophy 305 or consent of instructor. Emphasis on the analytic movement in philosophy as it developed during the 20th century. The works of such philosophers as C. I. Lewis, Quine, Goodman, Russell and Wittgenstein will be read. May be repeated with different content for additional credit.

498 Seminar in Existentialism and Phenomenology (3)

Prerequisite: six units of philosophy, including Philosophy 323, or Philosophy 425, or consent of instructor. A detailed examination of the work of some major contemporary continental philosophers, such as Husserl, Heidegger, Sartre, or Merleau-Ponty. May be repeated with a different content for additional credit.

Physics

499 Independent Study (1-3)

Prerequisites: minimum of 12 units in philosophy and approval of the department. Such study is designed to develop greater competency in research. May be repeated for credit.

PHYSICAL SCIENCE

(Offered by the Departments of Chemistry and Physics)

100 Man and His Physical Environment (4)

Designed to meet the needs of non-science majors. It traces some of man's scientific activities which have resulted in major modification of his environment. Key elements will be examined with a view toward predicting trends and suggesting alternatives which may improve the environment. Sufficient principles of physics and chemistry will be introduced to provide the student with the background necessary to understand the foundations of environmental problems. Treated will be topics such as: transportation; energy conversion; food production; population; waste disposal; and chemical warfare. Particular emphasis on those problems which threaten man's survival.

Modern Physical Science (4) 201

Prerequisite: one year of high school algebra or equivalent, or consent of instructor. Taught jointly by the Departments of Chemistry and Physics, this course presents the essential unifying features of the basic physical sciences, chemistry, chemistry and physics; the modern concepts of the physical and chemical theory of atomic and molecular structure form the unifying course material. Selected physical and chemical theory (from the fields of mechanics, electricity and magnetism, light, kinetic theory, thermodynamics, quantum theory, and inorganic and organic chemistry) are included to provide the necessary background material.

DEPARTMENT OF PHYSICS

FACULTY

Fred Johnson

Department Chairman

Raymond Adams, Kurt Bengston, Harvey Blend, Edward Cooperman, Ronald Crowley, Roger Dittman, Stuart Dubin, David Johnston, Mark Shapiro, Thomas Stark

The Physics Department has a strong interest in the student's career objectives. Frequent meetings with advisers and the chairman are scheduled. A daily tutorial session is in operation, designed to allow the student access to all faculty for aid in homework, problem-solving, as well as advising,

The entire curriculum is designed to make the study of physics relevant while allowing the student maximum flexibility to fit his career goals. All physics majors must file a plan of study prior to entering upper division coursework; this must be approved by the adviser and the chairman.

The physics curriculum is designed to meet the needs of students entering into the following areas of specialization: continuation in physics at the graduate level; technical and applied physics; studies leading to a professional degree in optometry, dentistry, patent law, medicine, computer science; further studies in hybrid fields such as astrophysics, biophysics, geophysics and physical chemistry; or preparation for a teaching career.

BACHELOR OF ARTS IN PHYSICS

To qualify for the Bachelor of Arts in Physics, students must have a C average in all courses required for the major, including those in mathematics and related sciences. No credit toward the major will be allowed for major courses in which a grade of D is received.

Proficiency in one foreign language (Russian, German or French) is recommended. A reading comprehension of a second foreign language is also recommended for those students planning graduate study leading to the Ph.D. It is recommended that two semesters of a fundamental course in a foreign language (10 units) and one semester of a scientific foreign language course be taken. Minimum departmental requirements for the degree follow:

Lower division	Units
Freshman seminar (Physics 101)	1
General chemistry (Chem 101A,B)	10

Physics	357
	Unit
Mathematics (Math 150A,B and math 250)	12 15
Total	38
Upper division	
The following core courses:	
Physics 431 Electricity and Magnetism	3
Physics 441 Analytical Mechanics	3
Physics 480 Modern Physics	3
Physics 480 Methods of Experimental Physics	3
At least 12 additional upper division units in physics, selected in consultation with the student's academic adviser with approval by both the adviser and the department	Marina de la compansión d La compansión de la compa
chairman.	12
Total	24
Other requirements	
In addition, the physics major must select a minimum of 16 additional upper division	
units from this or other departments. The selection of these courses is a matter for	
the student to decide, but he is strongly urged to consult his academic adviser. In	
particular, any physics major intending to later enroll in a graduate program in	
physics, or certain other graduate programs, is advised to include additional upper	
division mathematics courses in his plan of study, or to plan to enroll in Physics	
410, Introduction to Mathematical Physics	16
Mathematics courses in addition to analytic geometry and calculus	9
Total	25
MINOR IN PHYSICS	
A minimum of 21 units of physics are required for a minor. These shall include 12 units	of lower
division physics (or equivalent as determined by the Department of Physics), and a min	imum of
nine units of upper division physics, including a minimum of three units of experimental	
The following program suggests a sequence of courses leading to the Bachelor of Arts in I	Physics.*
Semester 1. Freshman	Units
Physics 101 Freshman Seminar	1
Physics 225A, 226A Fundamental Physics	4
Math 150A Analytic Geometry and Calculus	4
Semester 2. Freshman	
Physics 225B, 226B Fundamental Physics	4
Math 150B Analytic Geometry and Calculus	4
Semester 3. Sophomore	
Physics 225C, 226C Fundamental Physics	4
Math 250 Intermediate Calculus	4 5
Chem 101A General Chemistry	3

Physics 225D Fundamental Physics.....

Math 281 Linear Algebra and Differential Equations.....

Chem 101B General Chemistry

Semester 4. Sophomore

3

3

^{*} Suggested general education courses: English composition and/or world literature, Hist 170A, United States Since 1877, Poly Sci 100, American Government (these meet state requirements); Bio Sci 102, Crisis Biology, English 301, Advanced Composition, Phil 210, Logic, and a foreign language number 303, Scientific Readings, are courses useful to the physics major. In addition to courses that have some relation to physics, the student is urged to select courses in unrelated areas.

Semester 5. Junior	
Physics 441 Analytical Mechanics	3
Physics 480 Methods of Experimental Physics	3
Semester 6. Junior	
Physics 431 Electricity and Magnetism	3
Physics plan-of-study elective (Physics 411, 481-4, 490)	3
Semester 7. Senior	
Physics 451A Modern Physics	3
Physics plan-of-study elective (Physics 410, 416, 481-4, 490)	3
Semester 8. Senior	
Physics plan-of-study elective	3
Physics plan-of-study elective (Physics 451B, 455, 481-4, 490)	3

GRADUATE WORK IN PHYSICS

The Physics Department offers a number and variety of graduate courses in physics.

PHYSICS COURSES *

100 Man and His Physical Environment (4)

(See course description under Physical Science 100)

101 Freshman Seminar (1)

Offered on a credit-no-credit basis only. Open to all interested persons in the academic community including both those in science and those not in science. Designed to acquaint the student with the type of work that is presently being done by physicists throughout the world. Consists of approximately 15 seminar talks presented by well-known persons from the field of physics or a closely related field and approximately two field trips to academic or industrial research establishments.

102 Introduction to Analysis (4)

(Preparation for calculus—same as Engineering 100)

201 Modern Physical Science (4)

(See course description under Physical Science 201)

211A,B Elementary Physics (3,3)

Prerequisites: high school algebra, 1½ year; trigonometry, ½ year, Elementary physics covers mechanics and thermodynamics in the first semester, and electricity and magnetism, wave motion and quantum mechanics in the second semester. Illustrative material from biology and medicine will be included. Concurrent enrollment in 212A,B laboratory required.

212A,B Elementary Physics (1,1)

Laboratory for 211A,B. Concurrent enrollment in 211A,B lecture required. (3 hours laboratory)

225A Fundamental Physics: Mechanics (3)

Corequisite: Math 150A. Classical physics, including Newtonian mechanics, linear and circular motion, energy, momentum, systems of particles, rigid body motion and the special theory of relativity. Concurrent enrollment in Physics 226A laboratory required.

225B Fundamental Physics: Electricity and Magnetism (3)

Prerequisite: Physics 225A or equivalent; corequisite: Math 150B. Electrostatics, electric potential, Poisson's and Laplace's equations, capacitance, dielectrics and boundary value problems, electrical circuits, resistance, emf, magnetism and magnetic materials, and introduction to Maxwell's equations. Concurrent enrollment in Physics 226B laboratory required.

[•] For all courses, prerequisites not requiring consent of the department chairman may be waived by the instructor of the course if he is satisfied that the student is qualified to undertake the course. A grade of C or better is required for all prerequisite courses.

225C Fundamental Physics: Modern Physics (3)

Prerequisite: Physics 225B or equivalent. Geometrical and physical optics, wave phenomena; the historical development of quantum physics, including the photoelectric effect, line spectra and the Bohr atom; the wave nature of matter; Schroedinger's equation and solutions; the Uncertainty Principle. Concurrent enrollment in Physics 226C laboratory required.

225D Fundamental Physics: Thermal and Statistical Physics (3)

Prerequisite: Physics 225C or equivalent. Temperature, heat, changes of phase, ideal gas laws and the laws of thermodynamics; microscopic models, adiabatic processes and the Maxwell-Boltzman distribution function; transport phenomena, nonstationary state processes.

226A,B,C Fundamental Physics: Laboratory (1,1,1)

Laboratory for Physics 225A,B,C. Concurrent enrollment in the corresponding 225A,B,C lecture required. (3 hours laboratory)

NOTE: For Physics 225A,B,C,D and 226A,B,C prerequisites may be waived by consent of the department chairman and/or the instructor.

300 Introduction to Astronomy (4)

Prerequisite: high school algebra. Includes celestial motion, a study of the solar system, galactic structure, theories of the origin of the universe and the solar system with emphasis on evolution, leading to precursors of life-forming molecules. (3 hours lecture, 1 hour of activities, including field trips to planetariums and/or observatories as well as observing sessions) (Same as Earth Science 300)

311 Introduction to Molecular Biophysics (3)

Prerequisites: Biological Science 101, Math 150A,B (or consent of the instructor), Physics 211A,B. An introduction to the properties of biological systems from a molecular viewpoint. Emphasis is placed on determinations of macromolecular size and shape and the relation of such information to the function of biological systems.

350 General Astronomy (4)

(Same as Earth Science 350)

405 Acoustics (4)

Course is designed expressly for non-science majors and a major portion of the material covered is oriented toward applications in music, psychology and linguistics. (2 hours lecture, 1 hour conference and 3 hours laboratory)

410 Introduction to Mathematical Physics (3)

Prerequisite: Physics 225 series sequence. Fundamental physical concepts are presented in a unifying framework. Course is intended to prepare the physics student for upper division physics by placing emphasis on the mathematical physics used in the five major theories of physics-classical mechanics, relativity, electricity and magnetism, quantum physics and statistical mechanics.

411 Theory of Wave Motion (3)

Prerequisites: Physics 225 series sequence, Math 150B. The properties of wave motion—production, propagation, refraction, diffraction, interference, and transmission of waves—as applied to mechanics, electromagnetism and quantum mechanics.

Physics 415 Astrophysics (3)

Prerequisites: Math 150A,B, and Math 250, Physics 225A,B,C (or equivalent). Topics include the study of star formation, the interstellar medium, astro-organic synthesis; formation of molecules and solar systems, pulsars, Novas, variable stars, and magnetic stars. Recent astronomical observations will be discussed in the light of modern theoretical physical techniques and models.

416 Thermal and Statistical Physics (3)

Prerequisite: Physics 225 series sequence. An intermediate presentation of the disciplines of thermodynamics, statistical mechanics and kinetic theory (and their applications) with emphasis placed on their unifying microscopic foundation.

431 Electricity and Magnetism (3)

Prerequisites: Physics 225 series sequence, Math 250. Theories of electrostatics, electrodynamics, and electromagnetic waves.

441 Analytical Mechanics (3)

Prerequisites: Physics 225 series sequence, Math 250. Principles of Newtonian mechanics applied to the statistics and dynamics of particles and rigid bodies. Introduction to Lagrangian and Hamiltonian equations.

451A,B Modern Physics (3,3)

Prerequisites: Physics 225C and Math 250, or consent of instructor. Physics 451A must be taken before 451B. A survey of the principal modern physical theories and their experimental foundations. A—Basic relativity theory, atomic theory of matter and an introduction to quantum mechanics. B—Introduction to solid state, nuclear and particle physics.

452 Introductory Radiology (3)

Prerequisite: one year college physics. X-rays, radioactivity, interaction of radiation with matter, detection of radiation, applications to health physics. Especially suitable for biology, chemistry, and premedical students who expect to work in radiation biology, radiation chemistry or medical radiology.

453 Nuclear Physics (3)

Prerequisites: Physics 225 series sequence, Math 250. Properties of nuclei, radioactivity, elementary particles, nuclear reactions. Introductory discussion of theories of nuclear structure and nuclear processes.

454 Introduction to the Solid State of Matter (3)

Prerequisite: one course in atomic or nuclear physics, differential equations. An introduction to the physical properties of matter in the solid state, as explained by atomic theory. Crystal structure, thermal, electric, and magnetic properties of metals, semiconductors, band theory, and solid state devices.

455 Introduction to Quantum Physics (3)

Prerequisites: Physics 431, Physics 441, differential equations. An introduction to the concepts and theory of quantum physics. Early quantum theories, the Schrodinger equation, eigenvalue equations, operators, commutation properties, applications to simple quantum systems, matrix formulation, perturbation theory.

471 Electronic Circuit Theory (3)

Prerequisites: Physics 225 series sequence, Math 250. Operating characteristics of vacuum tubes, transistors, and semiconductor diodes. Linear circuit theory for alternating currents and for transient currents. Introduction to switching and pulse circuits.

476 Atomic Structure (3)

Prerequisite: Physics 455. The theory of atomic structure, interaction of radiation with matter.

Angular momentum and coupling schemes.

480 Methods of Experimental Physics (3)

Prerequisite: Physics 226B or consent of instructor. An introduction to, and survey of, the experimental techniques of laboratory physics. Topics include: the interpretation and analysis of data, preparation for the taking of data, experiment planning, calibration of equipment. Selected experiments from the field of electronics, optics, vacuum technology, nuclear physics, and atomic physics.

481 Experimental Physics (2)

Prerequisite: Physics 480. Selected experiments in electrical measurements and electronics, with emphasis on precision of measurement and standardization of instruments. (6 hours laboratory)

482 Experimental Physics (2)

Prerequisite: Physics 480; corequisite: Physics 441. Selected experiments in mechanics, acoustics, physical optics, and microwaves. (6 hours laboratory)

483 Experimental Physics (2)

Prerequisite: Physics 480. Selected experiments in atomic and nuclear physics. (6 hours laboratory)

484 Experimental Physics (2)

Prerequisite: Physics 480. Selected experiments in classical and modern physics (6 hours laboratory)

490 Senior Seminar (1-3)

Prerequisite: consent of instructor. Topics in recent developments in physics not ordinarily covered in organized courses. May be repeated for credit. Open to upper division and graduate students in physics and related areas.

499 Independent Study (1-3)

Prerequisites: approval of study plan by department chairman and by instructor. Study of some selected topic in physics, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit to a maximum of 6 units.

505 Biophysics Seminar (3)

Prerequisites: Math 250A,B, Physics 211A,B, Bio Sci 101, and Chem 101A,B. This seminar will discuss current topics and problems in the interdisciplinary area of biophysics. A discussion of macromolecular structure and function from an advanced viewpoint. Particular emphasis will be placed on methods of determining size and conformation of proteins and the relationship of these parameters of the biological function of such molecules.

521A,B Methods of Theoretical Physics (3,3)

Prerequisite: Math 250. A study of selected applications of mathematics to physical theory and to engineering. Applications are selected from ordinary and partial differential equations, integral equations, integral transforms, series expansions of functions, calculus of variations, matrix theory, tensor analysis, group theory, complex variable theory, and numerical analysis.

531A,B Classical Electrodynamics (3,3)

Prerequisite: mathematics through partial differential equations. A—Boundary value problems in electrostatics and magnetostatics; multipole expansions; dielectrics and macroscopic media; Maxwell's equations and conservation laws; wave guides and resonators. B—Simple radiating systems; electromagnetic potentials; multipole radiations; classical relativistic electrodynamics; radiation from moving charges.

533 Analytical Mechanics (3)

Prerequisite: mathematics through partial differential equations. A thorough theoretical treatment of classical mechanics including the important motions of a point, general principles of work and energy, the principle of least action, Lagrange and Hamiltonian equations, the dynamics of rigid bodies, and related topics.

540A,B Quantum Physics (3,3)

Prerequisite: mathematics through partial differential equations. The quantum mechanical treatment of piecewise continuous potentials, the linear harmonic oscillator, central forces and angular momentum and the hydrogen atom; representation theory, the WKB approximation, scattering, the Born approximation, quantum dynamics, spin, perturbation theory, symmetry principles, identical particles.

545 Nuclear Theory (3)

Prerequisite: Physics 540A. Internucleon forces; nuclear models; electromagnetic properties of nuclei, nuclear radiation theory.

562 Statistical Physics (3)

Prerequisite: mathematics through partial differential equations. Fundamental concepts of probability and statistics; random walk; equilibrium; transport theory; ensembles; constraints; irreversibility; canonical distributions; classical and quantum statistics. Applications to fields such as temperature, conductivity, radioactivity, thermionic emission, solutions, reactions, fluctuations, random noise and plasmas.

565 Solid State Physics (3)

Prerequisites: Physics 562 and 540A. Crystalographic groups; lattice vibrations, magnetic phenomena, energy band theory, with applications to the electrical and optical properties of solids and superconducting media.

581 Experimental Physics (3)

Prerequisiste: sufficient undergraduate experimental background. Presents basic, advanced techniques. Proper usage of computers and statistical methods in data analysis. Selected experiments in various fields of physics will be performed to teach proper data handling techniques.

599 Independent Graduate Research (1-3)

Prerequisite: written approval of study plan by department committee and by instructor. Open only to graduate students and only by permission of a faculty member. May be repeated for credit.

DEPARTMENT OF POLITICAL SCIENCE

FACULTY

Charles Bell

Department Chairman

Sidney Baldwin, Michael Brown, Dwight Carpenter, Robert Dworak, Anne Feraru, Joel Fisher, Julian Foster, Barry Gerber, Philip Gianos, Harvey Grody, Karl Kahrs, John Mason, William Petak, John Purcell, Ivan Richardson *, John Shippee, Barbara Stone, Sandra Sutphen, Bruce Wright, Jon Yinger

^{*} University administrative officer

BACHELOR OF ARTS IN POLITICAL SCIENCE

The undergraduate major in political science prepares students for teaching, government employment on the local, state and national level, foreign service, graduate work in political science, law school, or leadership in civic and political activities. Political science is also of value to prospective special librarians and journalists.

The courses in public administration are designed to serve students in the following ways: (1) provide an opportunity to explore the administrative dimensions of government and politics; (2) prepare for public service careers in local, state, and national governments and in other public and quasi-public organizations; and (3) prepare for graduate study in public administration.

The prelaw student may work out an individual program in consultation with his adviser to meet the specific requirements for admission to the law school of his choice. Generally speaking, however, there are no such specific requirements.

Unit and Course Requirements

The major consists of 30 units of political science of which at least 24 units must be in the upper division, plus 12 upper division units in related departments taken with the approval of the adviser. These 42 units are in addition to those meeting the general education requirements. Prospective majors are encouraged to take appropriate upper division courses in the social sciences (e.g., anthropology, economics, geography, history, psychology, sociology, statistics and philosophy). Related credit may be given for other fields only when specifically approved in writing by a department adviser.

All majors are required to take Political Science 100, American Government. This course does not apply toward the 30 units required of the major, but it may apply toward the student's general education requirements. Students intending to enroll in public administration courses at the 400 level are required to take not only Political Science 100, but also Political Science 320, Politics, Public Administration and Policy. Political Science 320 does count toward the major. Other 400-level courses may also require prerequisites; therefore, the student should plan in advance to meet course requirements.

The Department of Political Science offers three internship programs: a government internship, a political internship and a prelaw internship. Prerequisites for these programs are a declared concentration in the particular area and the consent of the instructor. Further information is available from the department.

For current information regarding the Department of Political Science, the student is advised to consult the departmental bulletin (PS) issued on a semesterly basis.

TEACHING MINOR IN POLITICAL SCIENCE

The teaching minor is composed of 21 units of political science, in addition to those meeting the general education requirements.

MASTER OF ARTS IN POLITICAL SCIENCE

This degree is planned for students interested in advanced graduate work toward the doctoral degree in political science, for the professional improvement of high school and community college teachers, government employees, personnel in the military services, and for individuals interested in civic and political leadership.

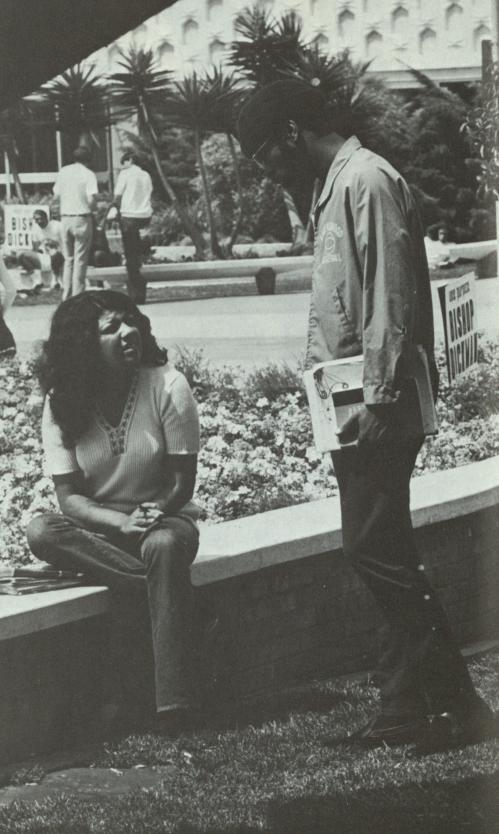
Prerequisites

A student desiring to be classified as a candidate for the degree:

- Must have taken the verbal and quantitative test of the Graduate Record Examination. The GRE Advanced Test in Political Science may also be rerequired.
- 2. Must have completed an undergraduate degree with a grade-point average of 3.0 or more in courses in his major field. If his major field was not political science or another social science, he must have a GPA of 3.0 both in his major and in any upper division social science courses he has taken.

A student whose GPA is less than 3.0 may appeal to the departmental Graduate Committee for waiver of this requirement, if his combined score on the GRE aptitude test is 1,000 or more.





Must have demonstrated knowledge of appropriate research methods. A reading knowledge of a foreign language, of statistics, and of computer programming may be required as preparation if pertinent to the student's professional needs.

Study Plan

A student must design a study plan of 30 units of coursework, subject to the approval of his M.A. committee (as part of the requirements for admission to classified status). At least 18 of these units must be in political science, of which 15 units, must be 500-level courses. Three to six units may be a thesis or project. A comprehensive final written examination and an oral examination are required.

No more than nine units of postgraduate work taken prior to classified status may be applied to a student's master's degree program.

For advisement and further information, consult the Department of Political Science.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

MASTER OF PUBLIC ADMINISTRATION

As a major gateway to a professional career in government and public affairs, the M.P.A. degree is designed to serve the following purposes:

- To prepare students who wish to enter a "generalist career" in public administration, leading
 to such positions as city manager, county administrator, and general administrative officer in
 city, county, state, and national governments;
- To increase the professional competence of those who are already embarked on careers in general public administration, or in specialized areas of public administration, such as budgeting and finance, personnel, and systems analysis;
- 3. To assist functional specialists, such as those in urban planning, public works, public welfare, law enforcement, education, community action, and other fields, who believe that they need a broader education in public administration;
- To provide academic study for more experienced or mature persons who wish to prepare themselves for second careers in public administration; and
- To provide academic preparation for those interested in proceeding to the doctoral degree in public administration.

Prerequisites

A student desiring to be classified for the M.P.A. degree must have satisfied the following requirements:

- Completion of the bachelor's degree from an accredited institution with the following: undergraduate work that includes a minimum of 12 semester units in the social sciences, six semester units of which must have been at the upper-division level; a grade-point average of at least 3.0 in upper-division courses in the major field; and successful passage of an upper-division course in social science statistics; and
- Satisfactory completion of the verbal and quantitative tests of the Graduate Record Examination.

Students with grade-point deficiencies, but who have had extensive experience in an administrative capacity, may be classified in the program after they have demonstrated their ability for advanced academic work by successfully completing nine semester units of approved public administration coursework with a grade-point average of at least 3.0.

Study Plan

The program of study for the Master of Public Administration must include a minimum of 30 semester units of adviser-approved coursework which meets the following requirements:

1. Nine units of required coursework in public administration, as follows:

Political Science 426 Administrative Research and Analysis (3)

Political Science 521 Seminar in Public Administration Theory (3)

Political Science 526 Seminar in Administrative Behavior (3)

2. The program of study must include either a project or thesis, and the student must enroll in either of the following:

Political Science 597 Project (3) Political Science 598 Thesis (3)

- At least six units of coursework must be in related fields outside of public administration, and at the 400 level or 500 level.
- 4. At least 15 units of coursework must be at the 500-level.
- 5. No more than six units of coursework may be accepted for transfer credit.
- 6. A final oral defense of the project or thesis is required of every candidate for the M.P.A. degree.
- Normally, no more than nine units of postgraduate coursework taken prior to classified status may be applied to the master's degree program.

For further information, consult the Department of Political Science.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

POLITICAL SCIENCE COURSES *

Political Science 100 or its equivalent is the prerequisite for all upper division political science courses; 300-level courses beginning with 310 may require concurrent enrollment in a research proseminar. See the departmental bulletin for details not provided in the course descriptions below.

100 American Government (3)

Explores people, their politics, and power focusing on contemporary issues, changing political styles and processes, as well as institutions and underlying values contributing to the stability of the American political system. Satisfies state requirements in U.S. Constitution and California state and local government.

300 Contemporary Issues in California Government and Politics (3)

Analysis of contemporary issues in California government and politics, including regional, county, and community subdivisions. Emphasis is on decision-making and the costs of democracy; the crisis in the cities, the flight to the suburbs, and race relations. Comparisons will be made with other states and their subdivisions. Satisfies state requirement in California state and local government.

310 American Political Behavior (3)

Stresses American culture, social patterns, behavior as they relate to political interaction. To be taken in conjunction with Political Science 311 when offered by same instructor.

311 Research Proseminar in American Political Behavior (3)

Research concepts and techniques applied to an individual project in American political behavior.

Offered only as companion course to Political Science 310.

315 American Political Process (3)

Stresses theoretical and analytic approaches to the study of structures, processes, and institutions in the American political system. To be taken in conjunction with Political Science 316 when offered by same instructor.

316 Research Proseminar in American Political Process (3)

Research concepts and techniques applied to an individual project in American political process.

Offered only as companion course to Political Science 315.

320 Politics, Public Administration and Policy (3)

Public administration and the roles played by administrators in the formulation and execution of public policy. To be taken in conjunction with Political Science 321 when offered by same instructor.

321 Research Proseminar in Politics, Public Administration and Policy (3)

Research concepts and techniques applied to an individual project in public administration. Offered only as companion course to Political Science 320.

330 Comparative Political Analysis (3)

Compares patterns of political behavior and interaction in various political systems. Also analyzes the basis for making such comparisons. To be taken in conjunction with Political Science 331 when offered by same instructor.

^{*} Prerequisites may be waived only with consent of instructor.

331 Research Proseminar in Comparative Political Analysis (3)

Research concepts and techniques applied to an individual project in comparative political analysis.

Offered only as companion course to Political Science 330.

335 Comparative Political Change (3)

A comparative study of sources and patterns of political change. To be taken in conjunction with Political science 336 when offered by same instructor.

336 Research Proseminar in Comparative Political Change (3)

Research concepts and techniques applied to an individual project in comparative political change.

Offered only as companion course to Political Science 335.

340 Political Philosophy (3)

Problems of evidence and validation in political studies. The distinction between empirical statements, value judgments and tautologies. The relationship of fact and value. Systematic approaches to the political philosophies of selected thinkers. To be taken in conjunction with Political Science 341 when offered by same instructor.

341 Research Proseminar in Political Philosophy (3)

Research concepts and techniques applied to an individual project in Political Philosophy. Offered only as companion course to Political Science 340.

345 Political Culture and Political Value (3)

Political values as they relate to aspects of political culture such as perceptions, attitudes and participation. To be taken in conjunction with Political Science 346 when offered by same instructor.

346 Research Proseminar in Political Culture and Political Values (3)

Research concepts and techniques applied to an individual project in political culture and political value. Offered only as companion course to Political Science 345.

350 International Politics (3)

A study of the diplomatic, political, economic, and cultural relations of states; basic factors of power, sovereignty, nationalism, imperialism, colonialism, the rise to influence of the developing nations, the settlement of disputes. To be taken in conjunction with Political Science 351 when offered by same instructor.

351 Research Proseminar in International Politics (3)

Research concepts and techniques applied to an individual project in international relations. Offered only as a companion course to Political Science 350.

375 Public Law (3)

Nature and function of public law particularly within the Anglo-American political tradition. To be taken in conjunction with Political Science 376 when offered by same instructor.

376 Research Proseminar in Public Law (3)

Research concepts and techniques applied to an individual project in public law. Offered only as a companion course to Political Science 375.

400 Problems in American Government (3)

An examination of such problems as the role of the federal government in regard to pollution, drugs and narcotics (research, education, law enforcement, international agreements), the seniority system in Congress; the role of lobbies, etc., using government reports, Congressional hearings, newspapers and journals of opinion. May be repeated for credit.

405 Politics of Experience (3)

Prerequisite: consent of instructor. A senior research proseminar stressing the theory and application of simulation models, including decision-making, game theory and group encounter techniques with respect to politics. Individual and group research encounter techniques will be utilized.

406 Scope and Theory of Political Science (3)

A senior proseminar in political science. The nature of the discipline: approaches, tools, concepts and theories. Highly recommended for all political science majors planning to do graduate work.

407 Quantitative Methods in Political Science (3)

A course in statistics which are relevant to the analyzing of political data. It will be presumed that students have only high school mathematics. Designed mainly for seniors who are thinking about going to graduate school or are graduate students.

410 Political Parties (3)

Prerequisite: consent of instructor. The structure and methods by which the political parties operate in the American political system with some comparisons to their structure and operation in other democratic societies.

411 Art of Administration (3)

Prerequisite: consent of instructor. An examination of public administration as it is practiced and understood by practitioners of the art. A seminar which features guest lecturers.

412 The Art of Politics (3)

Prerequisite: consent of instructor. An examination of politics as it is practiced and understood by practitioners of the art. A seminar which features guest lecturers.

413 Pressure Groups and Public Opinion (3)

The power and growth of farm, labor, business, and noneconomic pressure groups; interest group activity in Congress; administration and courts; public opinion and propaganda.

414 The Legislative Process (3)

The nature of the legislative process in the United States including the organization and procedures of legislative bodies, direct legislation and the relationships of the legislative branch to other branches of government. Legislative systems will be analyzed comparatively.

415 Political Behavior (3)

Prerequisite: consent of instructor. The application of behavioral methodology to the understanding of individual political behavior within various governmental and social situations. The formation of attitudes and opinions, their measurement and relationship to political behavior.

416 The American Presidency (3)

A study of the growth of the office and power of the President, of his relationship to his advisers and the executive departments. Congress and the courts, state governments and the public. The role of the President as chief policy-maker and administrator, party and public opinion leader, with particular attention to developments during international and domestic crises.

417 Student Protest (3)

Prerequisite: consent of instructor. The dynamics of student protest with major attention given to contemporary activities in the U.S. (Same as Interdisciplinary Center 452)

418 Public Policy Process (3)

Analysis of various public policy-making models and evaluation of their applicability to selected contemporary policy issues.

419 Administrative Organization and Process (3)

Prerequisite: consent of instructor. A course designed for students planning to enroll in graduate-level public administration courses, but who have not had an introductory course in public administration. Topics as organizational theory and practice, decision making, systems analysis, performance evaluation and administrative improvement.

420 Municipal Politics and Administration (3)

Prerequisite: Political Science 320. Structure and function of urban government, with emphasis upon community decision-making and group influence.

421 Public Finance Administration (3)

Prerequisite: Political Science 320 or 419. The role of finance administration and budgeting in the determination of public policy, and in the administrative planning and management of governmental operation in the United States. Examines the relationship of assessment administration to governmental revenues and expenditures, the principles and practices of cost accounting, treasury management, and capital budgeting.

422 Public Personnel Administration (3)

Prerequisite: Political Science 320 or 419. The growth and development of the civil service and the merit system; an evaluation of recruitment procedures and examinations; an analysis of such topics as position classification, salary structures, retirement plans, in-service training, employees organizations, and personnel supervision.

423 Regional Planning and Development (3)

Prerequisite: Political Science 320 or consent of instructor. A study of governmental policies, procedures, and agencies involved in the planning and development of regions. The concept of regions, survey of regional problems, and objectives, developmental prospects of regions, emerging views of regional planning, and intra- and inter-regional investment allocation during the development process.

424 Urban Planning and Development (3)

Prerequisite: Political Science 320 or consent of instructor. The origins and development of city planning; the legal bases and fundamental concepts of planning are defined; and the organization and administration of the planning activity are examined. The major elements of the general plan, zoning laws and administration, urban renewal, and capital programming are considered.

425 Comparative Public Administration (3)

Prerequisites: Political Science 320 or 419. Strongly recommended for students planning to concentrate in comparative politics. Cross cultural comparison of public administration systems; application of different models of analysis to administrative institutions; bureaucracy; the ecology of public administration in modernized and developing societies; and the role of public administration in nation-building.

426 Administrative Research and Analysis (3)

Prerequisite: Political Science 320 or 419. Concepts and methods employed in administrative research and analysis, with emphasis on organization and procedure surveys, performance evaluation techniques, administrative data sources and their uses, and report writing.

427 Metropolitan Politics and Administration (3)

Prerequisite: consent of instructor. The politics and administration of metropolitan area institutions of government, with emphasis upon their problems and alternative solutions.

428 Administrative Systems and Analysis (3)

Prerequisite: Political Science 320 or 419. Administrative systems and analysis in contemporary government, with emphasis upon systems planning and design, data processing, work flow, control systems, operations research, cost-benefit analysis and forms design.

430 Government and Politics of a Selected Nation-State (3)

Prerequisite: Political Science 330 or consent of instructor. Analysis of the political institutions and processes of a selected nation-state. May be repeated for credit.

431 Government and Politics of a Selected Area (3)

Prerequisite: Political Science 330 or consent of instructor. A comparative analysis of the structures and functions of the national political systems in a selected geographic area, such as Western Europe, Eastern Europe, Africa, South and Southeast Asia, Latin America and the Far East.

438 Latin American Interest Groups (3)

Consideration of the role of church, military, business, peasant and bureaucratic groups in Latin American society with particular interest in their impact on the quest for governmental stability and economic development.

440 Political Ideologies and Attitudes (3)

Content and appeals of contemporary ideologies. Social, economic and psychological bases of political attitudes and preferences.

442 Problems of Democratic Political Thought (3)

Problems relevant to philosophies and theories of democratic political systems, with emphasis on American political thought.

443 The Theory and Philosophy of Marxism (3)

Prerequisite: Political Science 340. An analytical study of Marxist theory and philosophy from its pre-Hegelian roots to the present.

450 Conduct of American Foreign Relations (3)

Formulation and execution of foreign policy. The roles and powers of the President, Senate, and House of Representatives. The functions of the Department of State and Foreign Service, U.S. Information Agency, Agency for International Development (AID); the role of the Pentagon; public opinion and pressure groups. Separation of powers, checks and balances, and cooperation in the conduct of American foreign policy.

451 Problems in International Relations (3)

Prerequisite: Political Science 350. Examination of selected problems in various countries and geographic areas with a definite impact on International Relations, such as nationalism, colonialism, anticolonialism, neutralism, racism, ethnic and linguistic minorities, border disputes, governmental instability, economic poverty, disease, illiteracy and overpopulation.

452 Foreign Policy of a Selected Country or Group of Countries (3)

Objectives, capabilities, policy-making processes, and implementation of the foreign policies of a particular country or group of countries. Focus may be on United States, Soviet Union, Latin America or other countries or areas. May be repeated for credit.

461 The United Nations and Other Public International Organizations (2)

Prerequisite: Political Science 350. Structure and functions of United Nations and various specialized and regional international organizations.

462 Politics of European Integration (3)

Prerequisite: consent of instructor. Analysis of the structures and functions of supranational institutions such as EEC, WEU, EFTA, etc. Concepts and prospects of European integration.

470 Judicial Process (3) (Formerly 370)

Prerequisite: Political Science 375 or consent of instructor. The nature, function and role of courts in the Anglo-American legal system particularly as the legal system affects and is affected by the political system.

473 Seminar in Constitutional Law and Governmental Power (3)

Prerequisite: Political Science 375 or consent of instructor. Case studies, selected problems in the exercise of governmental authority, especially involving social and economic regulation; federalism; and the relationships among legislative, executive, and judicial branches of government.

474 Seminar in Constitutional Law and Civil Liberties (3)

Prerequisite: Political Science 375 or consent of instructor. Case studies in selected constitutional rights and liberties.

475 Administrative Law (3)

Prerequisite: Political Science 320 or 375 or consent of instructor. The study of law as it affects public officials and agencies in their relations with private citizens and the business community. Attention is given to appropriate case materials and regulatory practices.

476 International Law (3)

Prerequisite: Political Science 350 or 375 or consent of instructor. The sources and nature of international law; its role in a world of sovereign states; the law of war and peace; the rights and duties of nations in their international relationships. The World Court; purpose, problems, and prospects.

481 Politics Through Literature (3)

Uses the novel as a means of explicating political behavior in various nation-states.

496 Prelaw Internship (3)

Prerequisite: consent of the instructor. Designed to acquaint students with the legal profession as it is practiced from a variety of frames of reference but primarily in the public rather than the private spheres. There is a supervised working commitment of 10 hours weekly with an assigned individual or organization associated or concerned with the practice of law. Particular emphasis will be placed on an examination of the relationship between the practice of politics and the practice of law. May be repeated once for credit.

497 Government Internship (3)

Prerequisites: public administration concentration and consent of instructor. Students work 15–20 hours per week as supervised interns in a public agency or related organization. Supervision is provided by the faculty and cooperating agency. In addition to the job experience, interns meet in a weekly three-hour seminar.

498 Political Internship (3)

Prerequisite: political science concentration and consent of instructor. Students work 8–12 hours per week with elected officials or candidates for elective office. Individual supervision is provided by the faculty and cooperating individuals. Interns meet with the instructor by arrangement. May be repeated for credit.

499 Independent Study (1-3)

Open to advanced students in political science by permission of the department chairman.

(Prerequisite for each graduate course is explicit consent of instructor.)

501 Readings in Political Science (3)

A seminar surveying the major works in the discipline of political science; strongly recommended for all students seeking an M.A. in Political Science or an M.P.A.

506 Seminar in the Scope and Theory of Political Science (3)

The nature of the discipline, approaches, tools, concepts and theories.

511 Seminar in American Politics (3)

A comprehensive examination of the political process in the United States.

515 Seminar in Political Behavior (3)

An intensive analysis of selected topics in political behavior.

520 Seminar in Public Finance Administration (3)

Study of selected topics in public finance administration.

521 Seminar in Public Administration Theory (3)

Study of the concepts, models and ideologies of public administration within the larger political system.

522 Seminar in Public Personnel Administration (3)

Study of selected topics in public personnel administration.

524 Seminar in Environmental Planning (3)

Specialized study of problems and issues in the physical and human environment of the urban community.

525 Seminar in Metropolitan Area Government (3)

Study of the different approaches to metropolitan areawide government, with special emphasis on interjurisdictional conflict and cooperation and the roles of state and national governments.

526 Seminar in Administrative Behavior (3)

Concepts, functions and techniques of administrative leadership; group dynamics; decision-making; the organization and the individual.

527 Seminar in Comparative Public Administration (3)

Study of selected topics in comparative public administration.

528 Seminar in Administration of Public Policy (3)

Study of the interplay between public policy development and program administration.

529 Seminar in Administrative Management Theory (3)

Prerequisite: consent of instructor. Study of selected topics in organization and management theory.

531 Seminar in Comparative Politics (3)

A comparative study of political systems.

535 Comparative Political Parties (3)

Comparative analysis of the structure, behavior, and roles of political parties and party systems. An attempt to construct a theory of parties, based on the evidence of a number of national political parties.

541 Seminar in Political Theory (3)

A comprehensive examination of ideologies, concepts, methods and trends in political theory.

550 Seminar on Foreign Policy Formulation (3)

A study of various models of the foreign policy-making process. Emphasis will be on the interaction between domestic and international sources for policy formulation.

551 Seminar in International Relations (3)

Study of selected problems in international relations with emphasis on individual research and contributions within the framework of a seminar. May be repeated for credit.

571 Seminar in Public Law (3)

Study of selected topics in public law.

597 **Project** (3)

Prerequisite: consent of instructor.

598 Thesis (3-6)

Prerequisite: consent of instructor.

599 Independent Graduate Research (1-3)

Prerequisite: consent of department chairman. May be repeated for credit.

DEPARTMENT OF PSYCHOLOGY

FACULTY

Ernest Dondis

Department Chairman

Robert Abbott, Dwight Curtis, Peter Ebersole, Marvin Eisen, Margaret Fitch, Larry King, Jara Krivanek, Richard Lindley, William Lindner, Richard McFarland, David Perkins, Louis Schmidt, Don Schweitzer, William Smith, Edward Stearns, Diane Sunar, Joseph Thomas, Loh Seng Tsai, George Watson

BACHELOR OF ARTS IN PSYCHOLOGY

The major in psychology consists of 36 units of lower and upper division work designed for students (1) who want a sound background in psychology as a science, (2) who want a basic understanding of human behavior as a supplement to some other major course of study, and (3) who wish to acquire a thorough undergraduate training in psychology in anticipation of graduate study.

Requirements for the Major

Lower Division

Psychology 101 Introductory Psychology (3)
Psychology 161 Elementary Statistics (3)

Psychology 202 Principles of Psychology (3)

Upper Division

A minimum of 27 units of upper division work is required for a major in psychology. Fifteen units are required as follows:

Psychology 302 Experimental Psychology: Learning and Motivation (3)

Psychology 303 Experimental Psychology: Sensation Perception or

Psychology 321 Physiological Psychology (3)

Psychology 351 Social Psychology or

Psychology 331 Psychology of Personality (3)

Psychology 461 Group Psychological Testing (3)

Psychology 408 History of Psychology (3)

A minimum of 12 additional units in psychology courses will be selected in consultation with the academic adviser. Not more than three units of Psychology 499, Independent Study, may be counted toward the major.

Each course counted toward the major must be completed with grade of C or higher.

Recommended Related Courses

Courses from each of the following areas according to the student's interests: (1) social sciences; (2) physical sciences; (3) biological sciences; (4) mathematics; (5) humanities.

Students planning to do graduate work in psychology are advised to plan additional work in biological, physical, and computer sciences and to include at least a one-semester course in college mathematics. Undergraduate work in foreign languages is also recommended.

MASTER OF ARTS IN PSYCHOLOGY

This degree is planned to extend the body of psychological knowledge developed in the undergraduate major and result in the development of greater depth in understanding the content of psychology; increased skill in research capabilities; the professional reporting of research; potential career skills; and sound preparation for students planning to go on to advanced graduate work. On completion of this program, students will have a better understanding of the many and complex disciplines in psychology as well as an understanding of related behavioral and scientific areas of study.

Prerequisites

Students to be admitted to the program must: (1) meet the general prerequisites for graduate work formulated and recommended by the university; (2) have completed a bachelor's degree with a major in psychology or 24 units in upper division psychology including a course in statistics, a course in the history of psychology, an upper division laboratory course in psychology, at least two of the following courses: physiological psychology, learning, sensation and perception, motivation, and at least one of the following courses: social psychology, personality, developmental psychology; psychological testing; (3) have completed a course in college mathematics, a course in the biological sciences, and a course in sociology or anthropology; (4) have completed a baccalaureate degree with a 2.5 general average and a 3.0 average in psychology; (5) show satisfactory performance on the aptitude test and the advanced test in psychology, which are parts of the Graduate Record Examination.

Study Plan

The Master of Arts in Psychology requires a minimum of 24 units of approved graduate work in the major field, including the completion and acceptance by the Psychology Department Graduate Study Committee of a written thesis, plus six units of approved work for graduate credit from other related areas.

The student, in consultation with an adviser on the staff of the Psychology Department, shall develop a program of studies which will be submitted to the Graduate Study Committee of the Department of Psychology for approval.

Course requirements for the M.A. in Psychology:

		Units
Psychology 500	Advanced General Psychology	3
Psychology 510	Experimental Design	3
Psychology 520	Seminar: Experimental Psychology	3
Psychology 521	Seminar: Personality or Psychology 551	
Seminar: So	cial Psychology	3

	001 31
Psychology 598 Thesis	3–6
Related courses outside psychology	6
Elective courses in psychology	6–9
	all telepools
Total	30

Peychology

Students will be required to pass a comprehensive examination in psychology and to complete satisfactorily 12 units of the study plan before being advanced to candidacy. An oral defense of the thesis is required at the completion of the student's program.

For further information, consult the Department of Psychology.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

PSYCHOLOGY COURSES

101 Introductory Psychology (3)

General introduction to basic concepts and problems in psychology as a behavioral discipline. Emphasis on the human organism as an adapting system, with attention to genetic origins; normal development capacities; problem-solving and adjustment to stress.

161 Elementary Statistics (3)

Prerequisites: Psych 101 and Math 120. An introductory course in statistics. Descriptive statistics, hypothesis testing, analysis of variance, correlation.

202 Principles of Psychology (3)

Prerequisite: Psych 101. A course for psychology majors stressing the fundamentals of research methods as they apply to basic areas in psychology. Emphasis on student participation in conducting experiments and analyzing data.

231 Psychology of Personal Adjustment (3)

Prerequisite: Psych 101. Dynamics of personal adjustment and interpersonal relations. Nature of conflict and frustration; demands of changing social roles; and attitudes, opinions and prejudices as they affect the individual and his relationships to others.

302 Experimental Psychology: Learning and Motivation (3)

Prerequisites: Psych 101, 202, 161 or consent of instructor. Selected experimental investigations in human and animal learning, memory, thinking, problem solving, and motivation with appropriate lecture and discussion. (2 hours lecture, 3 hours laboratory)

303 Experimental Psychology: Sensation and Perception (3)

Prerequisites: Psych 101; 202; 161 or consent of instructor. Selected experimental investigation with appropriate lecture and discussion. (2 hours lecture, 3 hours laboratory)

304 Experimental Psychology: Comparative (3)

Prerequisites: Psych 101; 202; 161 or consent of instructor. Behavioral similarities and differences between species as related to their position on the phylogenetic scale; the relation of changes in activity, motivation, emotionality, complexity, plasticity and adaptiveness of behavior to changes in sensory, motor, endocrine and neural structures as well as genetic and environmental factors. (2 hours lecture, 3 hours laboratory)

311 Educational Psychology (3)

Prerequisite: six units in psychology. Application of psychological research and theory to the educative process. Major attention given to the problems of learning, individual differences, child capacities, and behavior.

321 Physiological Psychology (3)

Prerequisites: Psych 202 and Bio Sci 101 or equivalent. Survey of relations between behavior and biological processes. Anatomy and physiology of the nervous system, role of neural and humoral agents in perception and complex behavior (emotion, etc.), behaviorial effects of brain lesions, the effects of drugs on behavior, psychosomatic disorders and motivation. (2 hours lecture, 3 hours laboratory)

331 Psychology of Personality

Prerequisite: Psych 202. Concepts of personality development, structure, and dynamics, with emphasis upon problems, methods, and findings in the study of personality.

341 Abnormal Psychology (3)

Prerequisite: Psych 231 or 331. Dynamics, symptoms, causes, treatment, and prevention of neuroses, psychoses, alcohol and drug addiction, psychosomatic illnesses, and character disorders.

342 Mental Health (3)

Prerequisite: Psych 101. An analysis of the concepts of mental health with emphasis upon positive factors in the individual, group, and community which are conducive to improving mental health. Credit not given as part of psychology major.

351 Social Psychology (3)

Prerequisite: Psych 101. Study of phenomena of social interaction and the nature of group processes and influences. Attention paid to the intrapsychic effects of group influences on the individual's behavior.

361 Developmental Psychology (3)

Prerequisite: Psych 101. Concepts and processes involved in the understanding of the psychological development of the person from infancy through adulthood. Attention is given to stages in the development of cognition, emotion, perception, motivation, and to the interaction of these processes.

391 Industrial Psychology (3)

Prerequisite: Psych 161 or 202. Study of psychological principles and techniques in industrial and business settings. Includes selection, placement, training, human factors, environmental influences, problems of people at work, and consumer behavior.

404 Advanced Topics in Animal Behavior (3)

Prerequisites: Psych 304, Anthro 201 or Bio Sci 466 and upper division standing, or consent of instructor. Selected advanced topics within the general areas of animal behavior and comparative psychology. Basic emphasis on social behavior and organizations, and communication systems, in such topics as population dynamics, aggressive behavior, evolution of behavior patterns and intelligence. Both library and fieldwork required.

408 History of Psychology (3)

Prerequisites: Psych 302, and 303 or 321. Survey of the development of psychology from early times to the present.

411 Human Learning and Memory (3)

Prerequisite: Psych 302. Theoretical and experimental analysis of the acquisition, retention, and transfer of verbal and motor responses. Consideration of single vs. multiple memory storage systems and of the role of reward, information, and motivation in human learning.

412 Psychology of Learning (3)

Prerequisite: Psych 302 or consent of instructor. Principles of learning according to the major theoretical systems. Critical evaluation of the theories and systems.

413 Perception (3)

Prerequisite: Psych 303 or consent of instructor. Psychological problems in perception.

415 Cognitive Processes (3)

Prerequisite: Psych 302, 303 or 304. Consideration of theory and research with respect to problem solving, thinking, concept learning, language, decision making and judgment, cognitive structure, cognitive development.

416 Motivation (3)

Prerequisite: Psych 302 or consent of instructor. Concepts and evidence concerning the activation and direction of behavior, including consideration of needs, wishes, drives, incentives and preferences.

417 Introduction to Psycholinguistics (3)

Prerequisites: six hours of upper division work in psychology or linguistics, or consent of instructor. Survey and analysis of psychological and linguistic approaches to the study of language. Discussion of several basic topics, including: comparison of human language with forms of communication in lower animals, innate aspects and learned aspects of language development, motivational and social aspects of language behavior, language disorders, symbolism, language universals. (Same as Linguistics 417)

431 Theories of Personality (3)

Prerequisite: Psych 331 or consent of instructor. Personality structure, development, and dynamics according to major theories. Research methods as they apply to personality theory.

436 Sport Psychology (3)

Discussion and analysis of literature, research and issues dealing with psychological aspects of play, games and sport. Credit not given as part of psychology major. (Same as Physical Education 436)

440 Laboratory Instrumentation in Psychology (3)

Prerequisites: Psych 302 and 303 or 321. A laboratory course in basic instrumentation in psychology. Major attention given to sensory, analog, digital, and electromechanical instrumentation. (2 hours lecture and 3 hours laboratory)

441 Experimentation in Personality (3)

Emphasis on methodological approaches to the study of personality. Students required to design experiments, collect data and write reports. Specific topics will vary according to the interests of the instructor and students. (2 hours lecture, 3 hours laboratory)

451 Experimental Social Psychology (3)

Prerequisites: Psych 161 or equivalent, 202; and 351. Study in depth of selected phenomena of social interaction and the nature of group processes and influences. Laboratory experience in experimental investigation of attitude formation and change; group processes such as communication. and problem-solving and formation of norms; interpersonal processes of influence and perception. (2 hours lecture, 3 hours laboratory)

453 Attitude Formation and Change (3)

Prerequisite: Psych 351 or consent of instructor. An intensive study of the theories of attitude development, stressing research methodologies in this area.

455 Small Group Process (3)

Prerequisite: Psych 351. A survey of the theories and methods of research used in the study of small groups with laboratory application in a small ongoing group in which the student will participate. (2 hours lecture, 3 hours laboratory)

461 Group Psychological Testing (3)

Prerequisite: Psych 161 or equivalent. Intelligence, aptitude, interest, and personality testing. Theory, construction, evalution, interpretation, and uses of psychological tests.

463 Experimental Child Psychology (3) Prerequisites: Psych 161 or equivalent, 202 and 361, plus junior-senior standing. Study in depth of selected methodological techniques and tactics for investigating and interpreting child and developmental psychological phenomena. Laboratory experience in experimental investigation of physiological, cognitive, social and personality development. (2 hours lecture, 3 hours labora-

465 Advanced Psychological Statistics (3)

Prerequisites: Psych 161 and Math 120 or equivalent. Statistical inference.

471 Behavior Modification (3)

Prerequisite: Psych 302. An exposition and evaluation of theories and techniques for modifying behavior including operant conditioning methods. (2 hours lecture, 3 hours laboratory)

475 Psychopharmacology

Prerequisites: Psych 321 or 15 units of biological science. Basic principles underlying the use of drugs and related substances to modify experience and behavior. Historical and cultural variations in drug usage. Psychological, medical and social potentialities and limitations of these techniques.

476 Drug Therapy of Mental Illness (3)

Prerequisites: Psych 341 and either 475 or 321 or six units of biological science or consent of instructor. General effects, toxicity and therapeutic use of drugs in the treatment of schizophrenia, neuroses and psycho-affective disorders; relation of drug therapy to other forms of psychiatric treatment; development and screening of new drugs.

481 Survey of Clinical Psychology (3)
Prerequisites: Psych 331, 341 and 461. Development and contemporary aspects of the field. Methods, diagnosis, therapeutic techniques, research, and problems.

499 Independent Study (1-3)

Prerequisites: completion of at least one upper division laboratory course and consent of instructor. Individual library study or experimental investigation under direction of a staff member. May be repeated for credit.

500 Advanced General Psychology (3)

An integration of key concepts in learning, motivation, perception, personality and social psychology.

510 Experimental Design (3)

Prerequisites: Psych 161 and 465. Principles and methods of planning and carrying out systematic investigations on the behavior of complex organisms, interdependence of experimental design and statistical evaluation of results, and the opportunity for practice in formulation of testable hypotheses.

511 Seminar in Psychological Measurement (3)

Logic and methodology of measurement in the areas of intelligence, personality, judgment, and attitudes: problems of test construction and validation. May be repeated for credit.

515 Psycholinguistics (3) (Same as Linguistics 515)

520 Seminar: Experimental Psychology (3)

Prerequisites: graduate standing; Psych 465 and 500. Study in depth of the data, methods, problems and current developments in sensation-perception; animal learning; human motor and verbal learning; thinking and problem solving; and motivation. May be repeated for credit.

521 Seminar: Personality (3)

Prerequisites: graduate standing, Psych 500. An intensive study of central problems in personality. Intensive study current problems and theories in these areas. May be repeated for credit.

523 Seminar: Comparative Psychology (3)

Prerequisites: graduate standing and consent of instructor. A study in depth of some aspect of animal behavior. Comparisons between species and biological determinants of behavior will be emphasized. May be repeated for credit.

531 Individual Mental Testing (3)

Prerequisite: Psych 461. Study of the major tests of intelligence. Emphasis on practical experience in administration, scoring and interpretation of these instruments.

551 Seminar: Social Psychology (3)

Prerequisites: graduate standing and Psych 500, and either 351 or consent of instructor. An intensive study of central problems and major theories in the field of social psychology. May be repeated for credit.

598 Thesis (3-6)

Prerequisites: formal admission to candidacy and consent of instructor. The writing of a thesis based on a major study or experiment in psychology.

599 Independent Graduate Research (1-3)

Prerequisites: graduate standing and consent of instructor. Individual library study or experimental investigation under direction of a staff member. May be repeated for credit.

DEPARTMENT OF RELIGIOUS STUDIES

FACULTY

Donald Gard

Department Chairman

Morton Fierman, Joseph Kalir, Robert McLaren (Education), James Santucci

BACHELOR OF ARTS IN RELIGIOUS STUDIES

This program leads to the B.A. in Religious Studies and is designed to encourage students to acquire the intellectual tools and scholarly background required for a critical understanding of the forms and traditions of religion that have appeared in human culture.

Students in fields other than religion are encouraged to ask the questions which pertain to the real excitement at the boundary lines where the usual studies converge. The aim of each course is an open and nontraditional examination of ultimate questions as they apply to contemporary situations. The relevance of belief in both Eastern and Western civilizations for the cultural development of man is examined. Guest lecturers from fields other than religion present their understanding of the art of living and of loving. An understanding of prejudice, war and other dimensions of religious value systems may thus be gained.

Major in Religion

Six hours of introduction to world religions and a senior seminar on contemporary religious issues are required.

In addition to the required lower division Introduction to World Religions (6) plus the required senior seminar, Contemporary Religious Issues (6), the student will be asked to choose at least six hours of courses in upper division studies from each of the following categories of courses:

- The History and Sociology of Religion: religion studied as a cultural phenomenon with the historical context; its development and controversies; religion and science; religion and economics; the sociology of religion.
- The Phenomenology of Religion: religion as a human phenomenon; the psychology of religion; the philosophy of religion; linguistic analysis of religious language; religion and poetry, the arts.
- Comparative Religion: a study of religious traditions and practices in Western and non-Western cultures: religious scriptures; comparative theology; major religious figures.

Minor in Religion

The minor in religious studies is composed of at least 20 units in religious studies exclusive of the general education requirements. For further information, contact the department chairman.

Courses in other schools and departments may be acceptable upon consultation with the chairman of the Department of Religious Studies.

RELIGIOUS STUDIES COURSES

111 Problems in the History of Religious Thought (3)

Prerequisites: Philosophy 110 or consent of Department of Religious Studies. An examination of some of the perennial problems that have appeared in the religious traditions of both East and West.

330 Judaism: From the Beginning to the Middle Ages (3) (Formerly 308)

The historical role of the religion of the Jews will be studied and the distinction will be drawn between the various forms of contemporary Judaism: Orthodox, Conservative, and Reformed from the beginning to the Middle Ages.

331 Judaism: From the Middle Ages to the Present (3) (Formerly 309)

The history and contemporary social significance of the religion of the Jews from the Middle Ages to the present, with emphasis upon contemporary Judaism.

332 The Land of the Bible: Everyday Life in Old Testament Times (3)

How people lived in the Mediterranean world in the first century of the Christian era. To deepen the understanding and kindle the imagination of the readers of the Old Testament in the light of the staggering progress which has been made in Biblical archaeology during the course of the present century.

333 Hebrew Prophets (3) (Formerly 305)

Lectures and seminar discussions dealing with the cultural, historical, values of and contemporary application of Isaiah, Second Isaiah, Jeremiah, Ezekiel and the minor prophets. (Same as Comparative Literature 305)

334 Wisdom Literature (3) (Formerly 306)

The interpretation of values in Proverbs, Job, Ecclesiastes, Ecclesiasticus, the Wisdom of Solomon, Egyptian and Mesopotamian Wisdom writers as applied to the modern world.

343 The Bible and Its Ethics (3) (Formerly 302)

The principal features of the ethics of the Bible, its significance, its problems, and its meaning for our modern times. The ideals of the ethics of the Bible and its approach to the problems in our society.

345 History and Development of Christianity (3) (Formerly 310)

An introduction to the Jewish background of Christianity, the person and work of Jesus, and the development of the church from the days of the apostles down to the present ecumenical era of Christendom.

375 Religion and the Cultural Crisis (3) (Formerly 304)

The role of religion in contemporary cultural crises and in history with such topics as the development of the family unit, sexual relationships and forms of worship.

376 Dimensions of Religion (3) (Formerly 307)

The great themes of religious thought viewed objectively and subjectively in history and in the present day are studied as a basis for understanding religious relevance and application. Seminar and discussion presentation.

405 Indian Religions (3) (Formerly 322)

Discussion of all the major religions of ancient India. Special emphasis will be placed upon the Upanisads, Buddhism and Vedānta.

406 Indian Religions (3) (Formerly 323)

Prerequisite: Religious Studies 405 or consent of instructor. Discussion of all the major religions of ancient India. Special emphasis will be placed upon the Upanisads, Buddhism and Vedanta.

415 Religions of China and Japan (3) (Formerly 324)

Prerequisite: Religious Studies 111 or Philosophy 110 or consent of instructor. The major religions of China and Japan will be discussed with special emphasis upon Taoism, Buddhism, and Confucianism. Chinese influence on Japan and the Japanese reaction to this influence, also will be discussed.

416 Religions of China and Japan (3) (Formerly 325)

Prerequisite: Religious Studies 111 or Philosophy 110, Religious Studies 415 or consent of instructor.

The major religions of China and Japan will be discussed with special emphasis upon Taoism,
Buddhism, and Confucianism. Chinese influence on Japan and the Japanese reaction to this
influence, also will be discussed.

430 Rabbinic Literature: The Writings of Law and Lore (3) (Formerly 303)

The historical, sociological and cultural background of the beginnings of the Talmud. The Talmud as one basis of modern ethics. Special stress will be laid on: man as a moral being, free will, labor, justice, truth and truthfulness, peace, charity, parents and children, country and community.

431 Jewish Mythology, Religion and Mysticism (3) (Formerly 400)

Prerequisite: Religious Studies 331 or consent of instructor. The principal features of Jewish mysticism, its inner significance, its problems and its meaning. An anlysis of some of its most important phases. A new illustration of the function which Jewish mysticism has had at varying periods, of its ideals and of its approach to the various problems.

432 The Worlds of Martin Buber, "The Philosophy and Theology of Martin Buber" (3) (Formerly 420)

A detailed and critical study of Buber's views concerning relationship of man to God and man to man.

433 Myth and Legend in Ancient Israel (3) (Formerly 405)

Prerequisite: Religious Studies 330 or consent of instructor. Comparative folklore and mythology of the Old Testament. The myths and stories of the Old Testament.

445 Religion in Western Culture (3) (Formerly 425)

An examination of groups and individuals whose writings and ideas have been formative in the development of Western culture from classic times to the present.

450 Ritual and Symbol (3) (Formerly 415)

Prerequisite: Philosophy 110, Religious Studies 111, or consent of instructor. A study of the nature of ritual and symbol in our own culture, taking into account the contributions of psychology.

475 Anxiety, Guilt and Freedom (3) (Formerly 406)

The distinction between psychiatry and religious methods of understanding basic human emotions will be examined together with an analysis of terms such as "authority", "God", "faith", "forgiveness", "sin", "error", "repentance", "sex", and "absolution".

476 The Holocaust: The Destruction of European lewry 1933–1945 (3) (Formerly 407)

The ordeal of European Jewry during the Second World War as reflected in art, music, drama, fiction, poetry, historical, psychological, and religious writing.

480 Theology and Contemporary Life (3) (Formerly 410)

Prerequisite: Religious Studies 345 or consent of the instructor. An exploration of major theological issues, and their relevance for contemporary social problems: God, nature, man, sin, revelation, reconciliation; culture and creativity, marriage and divorce, poverty, war, race, international relations, political and economic authoritarianisms.

481 Zoroastrianism (3) (Formerly 421)

Prerequisite: Philosophy 110. The course will present a detailed account of the life and teachings of Zoroaster as presented in the *Avesta*, with a discussion of its relationship to Judaism, Christianity, and the Greek philosophers Heraclitus, Pythagoras, Plato.

485 Major Contemporary Religious Thinkers (3)

Prerequisites: Philosophy 110, Religious Studies 111, or the equivalent. A detailed and critical study of religious thinkers contemporary to the modern world. May be repeated with different content for additional credit.

486 Major Contemporary Religious Topics (3)

Prerequisites: Philosophy 110, Religious Studies 111, or the equivalent. An in-depth inquiry into modern topics of a religious nature related to social, political, psychological trends. May be repeated with different content for additional credit.

499 Independent Study (1-3)

Supervised research projects in religious studies to be taken with the consent of the instructor and the program coordinator. May be repeated for credit.

RUSSIAN AREA STUDIES PROGRAM

FACULTY

Robert Feldman

Director

Charles Frazee (History), Ronald Helin (Geography), Karl Kahrs (Political Science), Peter Koepping (Anthropology), Harvey Mayer (Foreign Languages), Joyce Pickersgill (Economics), John Shippee (Political Science), Ted Smythe (Communications), Elena Tumas (Comparative Literature), Bruce Wright (Political Science), Michael Yessis (Physical Education)

BACHELOR OF ARTS IN RUSSIAN AREA STUDIES

The Russian area studies major is an interdisciplinary program designed for students interested in the language, literature, politics, history, economics, ideology, customs and geography of the Soviet Union. In addition to fulfilling the various cultural objectives common to any liberal arts program, the Russian area studies major provides a foundation for teaching the Russian language and social studies on the elementary and secondary levels. This major serves especially the needs of students intending to pursue graduate studies and those who foresee employment in government and professions that demand a regional as well as traditional orientation.

To qualify for this major, a student must complete (1) 16 units of Russian language or their equivalent, (2) 24 units of upper division Russian area courses from at least four of the following fields: comparative literature, economics, geography, political science, history, foreign language, (3) 15 units of upper division coursework in a related discipline to be determined in consultation with a Russian area counselor. Students are encouraged to have these units apply toward a second major in a traditional discipline.

RUSSIAN AREA STUDIES COURSES

All courses within the Russian area studies program originate in other departments within the university. Students should refer to the department originating the course for description.

Anthropology

351 Peoples of Eastern Europe (3)

499 Independent Study (1-3)

Communications

499 Independent Study (1-3)

Comparative Literature

373 Masters of Russian Literature (3)

374 Contemporary Russian Literature (3)

499 Independent Study (1-3)

Economics

330 Comparative Economic Systems (3)

331 The Soviet Economy (3)

499 Independent Study (1-3)

Foreign Language: Russian

380 Science and Mathematics Education

- 303 Readings in Scientific Russian (3)
- 315 Introduction to Russian Civilization (3)
- 317 Advanced Conversation and Composition (3)
- 375 Introduction to Literary Form (3)
- 400 Russian for Advanced Students and Teachers (3)
- 431 Early Russian Literature (3)
- 441 Tolstoy and Dostoevsky (3)
- 451 The Golden Age of Russian Literature (3)
- 461 Russian Literature from 1917 (3)
- 499 Independent Study (1-3)

Geography

499 Independent Study (1-3)

History

- 434A Russia to 1890 (3)
- 434B Russian Revolution and the Soviet Regime (3)
- 491 Proseminar (3)
- 499 Independent Study (1-3)

Political Science

- 430 Government and Politics of the U.S.S.R. (3)
- 431 Government and Politics of Authoritarian Systems (3)
- 443 Theory and Philosophy of Marxism (3)
- 499 Independent Study (1-3)

DEPARTMENT OF SCIENCE AND MATHEMATICS EDUCATION

FACULTY

George Turner

Department Chairman

Christopher Buckley, Gloria Castellanos, Francis Collea, John Cooper, George Hoetzl, L. Clark Lay, Robert Lepper, Neil Maloney, David Pagni, H. Eric Streitberger, Barry Thomas, Charles Williams, Margaret Woyski

The Department of Science and Mathematics Education offers three programs in the general science area: earth science; nature interpretation and conservation; and science and mathematics education. Degrees and curricula offerings in each area are described below.

PROGRAM IN EARTH SCIENCES

BACHELOR OF ARTS IN FARTH SCIENCE

This program is designed to provide a broad foundation in the earth sciences to prepare students for (1) graduate work in one of the earth sciences, (2) teaching earth science in secondary and elementary schools, (3) employment in government and industry, and (4) other major fields supported by an earth science minor.

To qualify for the bachelor of arts in earth science, students must have a C average in all courses required for the major including those in related fields. No credit will be allowed toward the major for earth science courses passed with a grade of D. A proficiency in one modern foreign language is recommended for students who plan to continue in graduate school. Proficiency in English composition is required. This requirement is normally met by passing a course in composition; the department may waive the requirement for students who consistently submit written work of superior quality.

Minimum Course Requirements for the Earth Science Major

Of the 124 units required for graduation, 36 are in earth science, 30 in related fields, 33 in general education courses and 25 undesignated.

Recommended High School Preparation

Mathematics—four years, including trigonometry
Chemistry and/or physics
Modern foreign language—three years (German, Russian or French preferred)

Recommended Community College Preparation

Students are advised to take a rigorous program in related sciences (mathematics, chemistry, physics) as well as earth science.

MINOR IN EARTH SCIENCE

A minimum of 20 units are required for a minor. The courses shall be selected by the student in consultation with his minor adviser. Prospective teachers should include studies in physical geology, earth history, meteorology, astronomy and oceanography.

EMPHASIS IN NATURE INTERPRETATION AND CONSERVATION

In recognition of the need for education in nature interpretation and conservation the Department of Science and Mathematics Education is developing coursework in these disciplines. Much of the coursework for these areas will take place at the nearby Tucker Wildlife Sanctuary. This sanctuary has been designated as a center for research and nature interpretation. In addition to research and coursework, the sanctuary will provide a continuing public service to the community through its daily programs in nature interpretation. This service is provided by resident professor-naturalists and student-naturalists in training at the facility. School groups as well as adults are invited to attend the regularly scheduled programs.

Courses Presently Offered

- 350 Field Biology and Conservation (3)
- 454 Seminar: Public Contact Procedures (2)
- 460 Applied Conservation (4)
- 470 Field and Museum Interpretation Techniques (3)

25

479A,B Supervised Naturalist Activities (3,3)

Additional courses leading to departmental certification in conservation studies and a possible graduate degree program are in preparation. Students interested in such coursework should contact the Department of Science and Mathematics Education for additional information.

PROGRAM IN SCIENCE AND MATHEMATICS EDUCATION

The Department of Science and Mathematics Education prepares students to teach in the areas of science and mathematics at the elementary and secondary levels, provides guidance for experienced teachers in the study and use of educational practices developed for the teaching of sciences and mathematics and helps teachers develop original ideas in their areas of specialization.

The offerings of this department include basic professional training courses required for teacher certification, advanced coursework in science and mathematics education, and certain academic content offerings designed especially for teacher preparation.

Requirements for teaching majors and minors in science and mathematics are listed under the respective academic departments.

REQUIRED COURSEWORK

The following courses offered by the Department of Science and Mathematics Education are required for teaching credential candidates.

Elementary School Credential Candidates—Any Major

Math Ed 103A Fund Concepts of Math—Arithmetic

Sci Ed 310 Elementary Experimental Science

Secondary School Credential Candidates—Science

Sci Ed 442 Teaching Science in the Secondary School

Sci Ed 749 Student Teaching in Science—Secondary

Secondary School Credential Candidates—Mathematics

Math Ed 310 Problem Solving—Arithmetic

Math Ed 321 Problem Solving: Algebra

Math Ed 322 Problem Solving: Geometry

Math Ed 442 Teaching Mathematics in the Secondary School

Math Ed 749 Student Teaching in Mathematics—Secondary

EARTH SCIENCE COURSES

101 Physical Geology (4)

An introduction to the nature of the planet earth, the genesis of rocks and minerals, erosion processes and their effects. Students may develop topics of interest as projects. (3 hours of lecture or discussion, 3 hours laboratory, 1 field trip; or the equivalent)

102 Earth History (4)

Prerequisite: Earth Science 101 or consent of instructor. The history of the earth as interpreted from rocks, structures and fossils. Consideration of the geologic time scale, ancient environments and the development of life, with emphasis on their interdependence. Development of continents and ocean basins. (3 hours lecture, 3 hours laboratory, 1 or 2 field trips)

110 Introduction to Physical Oceanography (3)

Prerequisite: high school physics or chemistry and algebra. An introduction to the physical, chemical, and geological nature of the oceans. (3 hours lecture, 2 field trips)

300 Introduction to Astronomy (4)

(Same as Physics 300)

301, 302, 401, 402 Studies in Earth Science (3-6 units each)

Open to majors in earth science and related fields. Students may elect from three to six units per semester with consent of instructor. Guided independent study of problems that are designed to explore significant aspects of earth science. May be repeated for credit totaling maximum of nine units in each course. (1 hour of discussion, conference, seminar, special lecture; 3 hours of laboratory, supervised study, and fieldwork for each 2 units)

Students may elect various study modules for one or more units per semester (from a maximum of six units per semester) and study areas can be repeated during successive semesters with

approval of adviser. The earth science major should develop a broad background from a spectrum of study areas. Areas of study that may be covered and taken in any sequence at any time in Earth Science 301, 302, 401 and 402 are listed below.

Crystallography Mineralogy Petrology Optical Mineralogy Earth Resources Geochemistry Soil Science Engineering Earth Scie

Engineering Earth Science Environmental Earth Science Oceanography

Marine Geology Meteorology Hydrology Paleontology Stratigraphy Sedimentology Geomorphology California Geology Structural Geology Global Tectonics Geophysics

Earth Science Field Methods Upper Atmosphere Science

Planetary Science Astronomy

History of Earth Science

310 Directed Reading in Earth Science (1-2)

Directed reading and/or directed investigations into various aspects of earth science. Topics of study may include fields of interest such as solar system, continental drift, evolution, weather, ancient life, oceanography, rocks and minerals, geology of California. May be repeated for credit to a maximum of four units.

350 General Astronomy (4)

Prerequisite: trigonometry. Physics recommended. Methods of astronomy, celestial motion, solar system, stellar types, galactic structure, theories of origin of the universe and solar system. (Same as Physics 350) (3 hours lecture, 3 hours laboratory)

499 Independent Study (1-3)

Study of some special topic in earth science, selected in consultation with instructor and carried out under his supervision. May be repeated for credit.

MATHEMATICS EDUCATION COURSES

103A,B Fundamental Concepts of Mathematics—Arithmetic (3,3)

Prerequisites: one year of algebra and one year of geometry. Three years of secondary mathematics recommended. 103A is a prerequisite for 103B. The structure of the real number system and its subsystems. Numeration systems. Elementary number theory. Equations and inequalities. Designed for elementary credential candidates.

310 Problem Solving: Arithmetic (3)

Prerequisite: Mathematics 291 or concurrent enrollment. Critical analysis of problem solving, proofs, and logical structure in arithmetic. Topics to be selected from new and emerging content in the mathematics curriculum in the secondary schools. Credit is not given for both Math Ed 310 and 103A or 103B.

321 Problem Solving: Algebra (3)

Prerequisite: Math Ed 310. Critical analysis of problem solving, proofs and logical structure in algebra.

Topics to be selected from new and emerging content in the mathematics curriculum in the secondary schools.

322 Problem Solving: Geometry (3)

Prerequisite: Math Ed 310. Critical analysis of problem solving, proofs and logical structure in geometry. Topics to be selected from new and emerging content in the mathematics curriculum in the secondary schools.

442 Teaching Mathematics in the Secondary School (2)

Prerequisites: Education 311, 340, admission to teacher education, senior standing or consent of instructor, Math Ed 310, 311, and 312. Objectives, methods, and materials for teaching mathematics in secondary schools. Required, before student teaching, of students presenting majors in mathematics for the general secondary credential. The student who has not had teaching experience must register concurrently in Education 449.

480 History of Mathematics (3)

Prerequisites: senior standing with a mathematics or mathematics education major. An introduction to the history of elementary mathematics through calculus, by a problem solving approach.

499 Independent Study (1-3)

Prerequisite: consent of instructor. Study of some special topic in mathematics education, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

749 Student Teaching in Mathematics in the Secondary School and Seminar (6)

See page 206 for description and prerequisites.

750 Seminar in Mathematics Education (1-3)

Prerequisite: graduate standing and consent of instructor. Study of selected problems in elementary or secondary education. May be repeated for credit.

NATURE INTERPRETATION COURSES

350 Field Biology and Conservation (3)

(Same as Science Education 350)

454 Seminar: Public Contact Procedures (2)

Prerequisite: public speaking or speech course, and consent of instructor. A course to develop the methods of positive personal and group contact procedures in nature interpretation and conservation education. Students will have the opportunity to give class presentations and optional public speeches.

460 Applied Conservation (4)

Prerequisites: upper division standing with basic courses in biology; Geography 350 required of non-science majors. A survey of the history of conservation for application in teaching and nature interpretive professions.

470 Field and Museum Interpretation Techniques (3)

Prerequisites: basic courses in biology and one specialized course. Investigation and implementation of the various techniques used in the field and museum for nature interpretation. Taxidermy, herbarium displays, plastic casting, and diorama construction will be developed. Major stress will be on individual projects.

479A,B Supervised Naturalist Activities (3,3)

Prerequisites: Nature Interpretation 454, 460 and 470, or consent of instructor. Supervised in-service training working as a naturalist at the Tucker Wildlife Sanctuary and other participating natural areas and interpretive centers.

570 Elements of Nature Interpretation (3)

Prerequisites: B.A. degree and consent of instructor. An interdisciplinary integration of biological, earth science and social science principles relevant to a naturalist training program for teachers and graduate students.

SCIENCE EDUCATION COURSES

100A,B,C Science for the Nonmajor—A Laboratory Approach (3,3,3)

A general education course in science in which the unifying nature of the scientific enterprise is emphasized. It is laboratory experience centered. The basic concepts and principles of the natural sciences (biological, physical, chemical and geological) are derived from laboratory experiences. Limited to students with an elementary teaching credential objective. Not appropriate for persons majoring in one of the sciences.

310 Elementary Experimental Science (3)

Prerequisite: completion of general education natural science requirements or consent of instructor. A laboratory centered course in the physical sciences appropriate for prospective elementary schoolteachers and other youth workers. The course covers primarily through laboratory investigations, selected content areas from the fields of chemistry, physics and earth science that are commonly found in elementary school science programs. The major emphasis is on development of such science skills as observing, classifying, recognizing space-time relations, measuring, inferring, formulating hypotheses, controlling variables and interpreting data. This course does not fulfill general education requirements nor is it appropriate for science majors. (2 hours lecture, 2 hours activity)

350 Field Biology and Conservation (3)

Prerequisite: one year of college science or consent of instructor. A course for nonmajors primarily designed for prospective elementary teachers to acquaint them with the plant and animal life of the region. In addition, the relationships between urban, suburban and wildlife regions will be investigated from a biological perspective. (Same as Nature Interpretation 350)

402 Biological Preparations (2)

Prerequisite: upper division standing with a major or minor in biology. An introduction to the problems and practices of preparing materials for teaching and research in biology. May include collection and preparation of whole organism specimens, histological specimens and media for characterization of microorganisms. (6 hours laboratory)

434 Elementary School Science—New Curricula (3)

Prerequisite: Sci Ed 310 (or equivalent) or consent of instructor. The content, philosophy and techniques of the new curricula for elementary science courses are studied. At present the course is designed to prepare teachers for the AAAS process approach to elementary science. (2 hours lecture, 2 hours activity)

442 Teaching Science in the Secondary School (2)

Prerequisites: Education 311, 340, admission to teacher education, senior standing or consent of instructor. The student who has not had teaching experience must register concurrently in Education 449. See page 198 under Secondary Education for description of Standard Teaching Credential program. Objectives, methods, and materials including audiovisual instruction for teaching science will be studied. Developing and using lesson plans, discussions, laboratory activities, etc., will be experienced during the course. (1 hour lecture, 2 hours activity)

443 Secondary Science Education—Biology (3)

Prerequisite: Sci Ed 442 (or equivalent) or consent of instructor. Educational practices particular to the teaching of biology are studied. Special emphasis is placed on recent curricular developments in this area. Presently the course is designed to instruct teachers in the theory, content and methodology developed by the Biological Sciences Curriculum Study (BSCS). (2 hours lecture, 2 hours activity)

444 Secondary Science Education—Chemistry (3)

Prerequisite: Sci Ed 442 (or equivalent) or consent of instructor. Similar to Sci Ed 443 with the emphasis on chemistry. Presently the course is oriented around the programs developed by the Chemical Educational Materials Study (CHEMS) and the Chemical Bond Approach (CBA) to teaching chemistry. Needs of participating teachers will determine which program will be emphasized. (2 hours lecture, 2 hours activity)

446 Secondary Science Education—Earth Science (3)

Prerequisites: Sci Ed 442 (or equivalent) or consent of instructor. The content, philosophy, and techniques of teaching earth science on the secondary level are studied. This course is designed to prepare teachers in the theory, content and methodology in the earth science course developed by the Earth Science Curriculum Project (ESCP). (2 hours lecture, 2 hours activity)

461 Development of Science and Technology (3)

Prerequisites: upper division standing. Changes through time in the interrelationships between science, technology and cultural factors.

470 Evolution of Scientific Ideas (3)

Prerequisites: upper division or graduate standing with a major or minor in one of the sciences or consent of instructor. A study of how some of our currently held scientific concepts have evolved. Emphasis on the essential interrelation of the various scientific disciplines and their relation to contemporary cultural and intellectual influences.

499 Independent Study (1-3)

Study of some special topic in science education, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

710 Seminar in Science Education (2)

Prerequisites: an A.B. degree, teaching credential, or consent of instructor. Designed for postgraduate science students who wish to investigate recent developments in teaching the sciences. New courses and materials for the various subject matter fields will be researched and demonstrated. Areas of concentration will depend on interests and training of the seminar participants. May be repeated for credit.

749 Student Teaching in Science in the Secondary School and Seminar (6)

See page 206 for description and prerequisites.

760A,B Earth Science for Secondary School Teachers (3,3)

Prerequisites: valid secondary school credential or consent of instructor. The course covers the theory, content and methodology of new Earth Science Curriculum Project (ESCP) course for secondary school earth science. The course is designed for practicing teachers of earth science. (2 hours lecture, 2 hours activity)

799 Independent Study (1-3)

Prerequisite: valid teaching credential or consent of instructor. Study of some special topic in science education, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

PROGRAM IN SOCIAL SCIENCES

FACULTY

Lawrence de Graaf (History) Graduate Program Adviser

MASTER OF ARTS IN SOCIAL SCIENCES

The Master of Arts in Social Sciences is designed with three possible objectives in view: to provide a broader and more integrated disciplinary background for students later interested in working toward the doctorate in any one of the specific fields of social sciences or in the general area of social sciences; to prepare secondary and elementary school teachers to introduce the social sciences in a more modern and sophisticated way so that the social studies curriculum can be upgraded; and to provide opportunities for students with strong interests in interdisciplinary programs to work out custom-tailored programs which will serve their interests.

Prerequisites

It is recommended that an incoming student should have an undergraduate major or the equivalent in one of the social sciences and substantial work in other social science fields. The graduate program adviser will determine equivalence to major.

An incoming student must have a grade-point average of 3.0 in upper division (undergraduate) social sciences courses.

Study Plan

1. Social Sciences Core

500 The Social Sciences in the Modern World: Major Findings, Concepts and Theories (3) 501 The Social Sciences in the Modern World: Basic Skills and Human Dimensions (3)

2. Multidisciplinary Core

This part of the program is to be made up of 21 units in at least *three* social science fields. Twelve of these units must be 500-level or graduate courses. The same three fields should be represented in the 12 graduate units.

3. Project

Every student will prepare a project, the norm of which will be a written research essay, but particulars of which will be defined by the committee for the student. Projects will be tailored to reflect the interdisciplinary effort.

The social sciences include the following related fields: anthropology, economics, geography, history, political science, psychology and sociology.

For further information, consult the graduate program adviser.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

325-4 5 450

SOCIAL SCIENCES COURSES

500 The Social Sciences in the Modern World: Theories (3)

A seminar providing a philosophical and theoretical basis for graduate work in the area of social science. It will focus on the interrelationships which exist among the various social sciences as they relate to man in his social, physical and political environment.

501 The Social Sciences in the Modern World: Methods (3)

Analytical comparison of the historical, humanistic and scientific methodologies in the history of the social sciences. This seminar will also deal with the contemporary trends in the social sciences methods.

597 Project (3)

Prerequisite: consent of instructor.

599 Independent Graduate Research (3)

Open to graduate students in social science with the consent of program adviser or coordinator. May be repeated for credit.

DEPARTMENT OF SOCIOLOGY

FACULTY

John Bedell

Department Chairman

Tony Bell, Dennis Berg, Gene Calvert, Carol Copp, Timothy Curry, Helaine Feingold, Perry Jacobson, Eugene Labovitz, Pat Lackey, John Landsverk, Michael Mend, Bartolomeo Palisi, Houshang Poorkaj, Gerald Rosen, Jai Poong Ryu, J. Rex Smith, C. Michael Stuart, Clarence Tygart, Mary Walshok, Ernest Works, Troy Zimmer

BACHELOR OF ARTS IN SOCIOLOGY

The major in sociology provides knowledge about how groups, social positions and social ideologies affect people's behavior. This type of knowledge provides a good background for occupations in which people either supervise or help others, such as social work, government services, business careers, and teaching. A B.A. in sociology prepares the student to do graduate work in sociology and related fields of study.

The required minimum for the major is 42 units, in addition to those taken for the general education requirement, distributed as follows:

Thirty units must be taken in sociology, 24 in upper division courses. Sociology 201 is required, and 3 additional units are acceptable from lower division offerings. The minimum of 24 upper division units must include 331A, 331B, 481.

Students should take the required courses (Sociology 481, 331A, and 331B) during the first two semesters of their junior year, and they should consult with academic advisers in the department for assistance in planning their course of study.

TEACHING MINOR IN SOCIOLOGY

For teaching credential purposes a minor consists of 21 units in sociology, distributed as follows:

and the local section to be a section of the sectio	Units
201	3
202 or 411 or 413 or 431	3
341 or 451	3
477 or 480 or 481	3
Electives in sociology	9
	March 19

MASTER OF ARTS IN SOCIOLOGY

The program for this degree provides advanced study in general sociology. It offers an opportunity to broaden one's knowledge of society, to strengthen skills of sociological analysis, and to do research in depth in an area of particular interest. It may be used as preparation for study toward the doctorate in sociology, for community college teaching, participation in research, or for a variety of positions in business and industry, corrections, the community, or government.

Prerequisites

Admission to the program requires a minimum of 18 upper division units in sociology, including the following courses or their equivalents:

- 331A Social Research Methods (design, collecting data, etc.)
- 331B Social Research Methods (elementary statistics)
- 481 Sociological Theory

Also required is a GPA of 3.0 (B) for all work in sociology and a 2.5 average for all previous college work.

Study Plan

The study plan for the degree must include the following:	
1. Sociology 530 Advanced Statistical Analysis	3
2. Sociology 531 Advanced Methods and Measurements in Sociology	3
3. Sociology 581 Analysis of Sociological Theory	3
4. Sociology 598 Thesis	6
5. Required additional units of graduate work in sociology	9
Work which may be graduate or upper division sociology or related fiel combination	ds in any
	30

To complete the requirements, the candidate must successfully defend the thesis in an oral examination by a committee.

Additional seminars, or Sociology 599, Independent Graduate Research, may be used for requirement "5", but not in lieu of the thesis. Normally the student will register for thesis two different times, for three units each semester.

For further information, consult the Department of Sociology.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

SOCIOLOGY COURSES

201 Introduction to Sociology (3)

A general introduction to the basic concepts of sociology, and the scientific study of human society. Among topics included are social interaction, culture, personality, social processes, population, social class, the community, social institutions and sociocultural change.

202 Social Problems (3)

Prerequisite: Sociology 201. Study of the extent, causes and consequences of a number of social problems, with emphasis on 20th-century America. Problems are viewed in the context of the changing society.

331A Social Research Methods (3)

Prerequisite: Sociology 201 or consent of department. Research design and methods of gathering data, especially by interview and questionnaire, are emphasized. Among other topics are the role of theory in research, and sampling methods and problems. In addition, the student will be introduced to the techniques and equipment essential to data processing and analysis.

331B Social Research Methods (3)

Prerequisites: Sociology 201, 331A, or consent of department. Elementary statistical analysis of social data is emphasized, with some consideration of problems of measurement and of the writing of research reports. (2 hours lecture, 2 hours activity)

341 Social Interaction (3)

Prerequisites: Sociology 201 and three units of psychology. Inquiry into the social and sociopsychological dimensions of group behavior and the socialization of the individual. Social interaction and its impact on the individual and personality formation.

342 Methods in Experimental Social Psychology (3)

Prerequisite: Sociology 341. Designed for sociology majors who are unfamiliar with the experimental method. Focus will be on substantive sociological topics that are amenable to laboratory and field experimentation, and the design of such experiments. Special stress will be given to the theoretical integration of basic psychological and sociological principles.

345 Sociology of Communication (3)

Prerequisites: Sociology 201 and upper division standing. A study of linguistic, symbolic, kinesic and social interactional and organizational aspects of communicative systems. Special attention devoted to attitude and belief systems as influenced by direct interpersonal contact, and by printed media, television and motion pictures.

348 Collective Behavior (3)

Prerequisite: Sociology 201. Characteristics of crowds, mobs, publics. Analysis of social movements and revolutions, their relation to social unrest and their role in developing and changing social organization.

361 Population Problems (3)

Prerequisite: Sociology 201. Population composition, growth and movement. Social factors affecting birth rates, death rates, and migration. Attention is given to the population of the United States and to selected areas of the world.

362 Introduction to Formal Demography (3)

Prerequisites: Sociology 201 and 361. The demographic measures and concepts of the three basic factors of the population growth, viz., fertility, mortality, and migration will be discussed as far as it is feasible without assuming from the students the knowledge of mathematics beyond high school algebra. The range of topics will include census and vital registration, rates and ratios, measures of mortality, standardization, life tables and their construction, measures of fertility, gross and net reproduction rates, concepts of stable and stationary populations, intrinsic rates, population estimates and projections, measures of migration and the distribution of population, and the demographic measures from incomplete data.

371 Urban Sociology (3)

Prerequisite: Sociology 201. The population and ecology, patterns of growth, institutions, characteristic social interaction, values and problems of the urban community.

411 Criminology (3)

Prerequisite: Sociology 201. The extent, causes and control of criminal behavior. Includes study of the criminal law, causal factors and theories, correctional institutions, probation and parole, and preventive efforts.

413 Juvenile Delinquency (3)

Prerequisite: Sociology 201. Juvenile delinquency as a social problem. Sociological study of the causes of delinquent behavior, and programs of control, treatment and prevention.

415 Sociology of Corrections (3)

Prerequisite: Sociology 411 or 413 or consent of instructor. The application of basic sociological theory to analyze current problems and programs in probation, parole and correctional institutions. Intended to provide a conceptual framework for students planning careers in the field of corrections as well as provide in-depth view of corrections for students interested in general education.

425 Comparative Social Change (3)

Prerequisite: Sociology 201. Comparative analysis of changing community, institutional, technological, and social class patterns in selected societies, with emphasis on differences between "developed" and developing areas.

430 Social Psychology of Prejudice (3)

Prerequisite: Sociology 201 or consent of instructor. The social psychology of intergroup prejudice.

An analysis of research and theory on the dimensions, causes, consequences and reductions of intergroup prejudice.

431 Minority Group Relations (3)

Prerequisites: Sociology 201. Study of racial, national and religious minorities, especially in the United States. Includes study of discrimination, prejudice, different patterns of intergroup adjustment, and attempts to change group status.

436 Social Stratification (3)

Prerequisite: Sociology 201. Social class structures and their functions. Different styles of life; determinants of class status; vertical social mobility; change in class systems.

442 Small Groups (3)

Prerequisites: Sociology 341, 342, or consent of instructor. Theories, methodology, and studies in the area of small group research. Covers such topics as communication channels, coalition formation, group cohesion, leadership, and conformity in groups.

451 Sociology of the Family (3)

Prerequisite: Sociology 201. The family as a social institution. Historical and cross-cultural perspectives; social change affecting marriage and the family; analysis of American courtship and marriage patterns; the psychodynamics of family life.

454 Sociology of Aging (3)

Prerequisite: Sociology 201. Analysis of aging as a social process, with emphasis on sociological theories of aging, problems of adjstment, demographic changes and policy issues.

455 Medical Sociology (3)

Prerequisites: Sociology 201 or consent of instructor, and upper division standing. This course is designed to provide the student with a comprehensive sociological perspective for interpreting medicine and medical behavior. In a multifaceted approach, disease processes as they affect the individual and others in his environment, health practice and practitioners, health institutions and the cost and service of health services will be considered.

458 Sociology of Religion (3)

Prerequisite: Sociology 201. Theoretical analysis of religion as a social institution in complex societies. The structure and functioning of religious organizations; roles and role relationships; types of religious organizations and leadership; the relationships of religion to other social institutions; religion and social change.

461 Issues in Comparative Sociology: The Family (3)

Prerequisite: Sociology 451 or consent of instructor. Concerned with the major variations in the organization of the human family; what they are, what causes them, and what difference they make; deals with the comparative study of families, both within a culture and across cultures.

463 Political Sociology (3)

Prerequisite: Sociology 201. Theoretical perspectives; nature of power and authority; social structure and political institutions; elites and decision-making; social influences on political behavior; political movements.

464 Contemporary Social Issues (3)

Prerequisite: Sociology 201 or consent of instructor. Application of social conflict theory to the analysis of controversial social issues and contemporary revolutionary movements in the world today; including the conditions leading to the development of social protest; the ideologies, goals, strategies, and outcomes of revolutionary and reform movements.

465 Law and Society (3)

Prerequisite: Sociology 201. The law and lawyers in the context of human society. Law as formal social control, variations in legal systems, social change and selected areas of law, the legal profession.

466 Deviant Behavior (3)

Prerequisites: Sociology 201. An advanced course in which the wide range of behaviors socially defined as deviant are dealt with from a variety of theoretical perspectives. Behaviors covered include drug addiction, sexual deviance, delinquency, alcoholism and mental illness Theoretical perspectives covered include such orientations as functionalism, anomie theory, conflict theory and labeling theory.

470 Sociology of Occupations (3)

Prerequisite: Sociology 201. Sociological analysis of work roles in technologically advanced societies. Career patterns, occupational recruitment, job mobility, organizational demands. The nature and development of the professions, their ideologies and images.

471 Industrial Sociology (3)

Prerequisites: Sociology 201 or consent of instructor. The study of human relations in industry; characteristics and assumptions of modern industrial societies; social roles of workers, technicians, management, and owners; formal and informal work groups; the social organization of work and industry; industrial communities, incentives, and leadership emphasis given to both theory and research and application.

473 Complex Organizations (3)

Prerequisite: Sociology 201. Sociological analysis of formal organizations (industrial, governmental, welfare, military, medical, educational, correctional, etc.) as systems of social interaction. Includes such topics as blueprinted vs. informal structure, authority, decision-making, role conflicts, communication and morale.

477 Social Organization (3)

Prerequisites: Sociology 201. Theories of social organization and the structure of various social groups are analyzed, with a comparative analysis of social structures and systems. The various levels of groups are discussed and interrelated.

478 The Sociology of Voluntary Organizations (3)

Prerequisites: Sociology 201. Views of the reality and nature of voluntary action will be examined. The assumptions which various schools of sociology make about behaviorism, humanism, reductionism, free will and determinism and the consequences of such assumptions will be discussed. Literature on voluntary associations, friendship, kinship structures, and other voluntary groups will be reviewed. Current social issues such as race relations, poverty, education crises, war, overpopulation, and urbanization will be related to voluntary social action literature.

480 Analysis of Social Philosophy (3)

Prerequisite: Sociology 201. The analysis of pre-20th century explanations of man's behavior. Considerable attention is given to the comparison of the early philosophy of man and the modern sociological view of man.

481 Sociological Theory (3)

Prerequisite: Sociology 201 and consent of department. A comprehensive survey of the main school of sociological thought, both European and American, with emphasis on *systems* of theory, methodology of theorists, cultural change and social institutions.

482 Sociology of Knowledge (3)

The analysis and study of frames of reference and beliefs systems in everyday life, and their relationship to social structure, decision processes and social change.

483 Theories and Research Techniques in Modern Sociology (3) (Formerly 479)

Prerequisites: Sociology 481 or 331A, or equivalent. Open to non-majors with consent of instructor. The objective of the course is the integration of theory and research techniques in the study of such things as socialization role behavior, alienation and power. Not a survey course but rather an intensive study of one or a few social events.

495 Senior Seminar (3)

Prerequisite: senior classification. Open to sociology majors who have had the upper division coursework in the area of the seminar. Emphasis in the seminar will depend upon the particular specialty and training of instructor.

499 Independent Study (1-3)

Prerequisites: at least 12 hours of sociology and consent of adviser. Student selects an individual research project, either library or field. The student must take appropriate undergraduate prerequisites and enroll with an instructor whose recognized interests are in the area of the planned independent study. Conferences with the adviser as necessary, and the work culminates in one or more papers. May be repeated for credit.

501 Seminar: Selected Topics in Societal Structure and Process (3)

Prerequisite: consent of instructor. Analysis of a specialization within the study of society such as: socialization and personality; deviance; social change; institutional structure and process.

511 Seminar in Crime and Delinquency (3)

Prerequisite: either Sociology 411 or 413, or consent of department. Analysis of selected problems in the field of crime and delinquency with major emphasis upon independent investigation into the theoretical and research contributions on the causes, prevention and treatment of criminal and delinquent behavior.

530 Advanced Statistical Analysis (3)

Prerequisites: Sociology 331A,B or consent of instructor. Techniques most commonly utilized by sociologists but not covered in Sociology 331A,B are studied. The techniques deal primarily with multivariate analysis such as tests of significance, tests for interaction, measures of association, regression analysis and factor analysis.

531 Advanced Methods and Measurements in Sociology (3)

Prerequisites: Sociology 331A,B, or their equivalents, or consent of department. A critical analysis of basic problems of social research. Casual inferences, value bias, and measurement, especially the construction of scales.

533 Seminar in Intergroup Relations (3)

Prerequisite: Sociology 431 or consent of department. Analysis of relations among ethnic, racial and religious groups throughout the world. Analysis of processes leading to, sustaining, and associated with changes in relations among such groups.

536 Seminar in Social Stratification (3)

Prerequisite: Sociology 436 or consent of department. Analysis of stratification in industrial societies. Emphasis on theory and methods, and on international comparisons. Analysis of factors leading to social class, the persistence of class divisions, class conflict and social change, and the effects of class on behavior.

541 Seminar in Social Interaction (3)

Prerequisite: Sociology 341 or consent of department. Advanced social-psychological study of social interaction, including sociological factors in personality development and analysis of primary group behavior.

542 Practicum in Sociological Experimentation (3)

Prerequisites: Sociology 342, 331A,B, or consent of instructor. Designed to meet needs of students who desire practical training in experimental sociology. Students in the seminar will design and conduct an experiment in all its phases, including selecting a testable hypothesis, designing the appropriate equipment, producing the data, analyzing the results, and preparing the final report.

573 Seminar in Large Organizations (3)

Prerequisite: Sociology 473 or consent of department. The analysis of large organizations, their structural and operating characteristics and the relationships between the organization and its members.

577 Seminar in Social Organization (3)

Prerequisites: Sociology 477 or its equivalent and consent of department. A critical treatment of various theoretical approaches to the analysis of social organization. Specific areas of social organization.

581 Analysis of Sociological Theory (3)

Prerequisites: Sociology 481 or equivalent and consent of department. Examination of the basic elements and key problems in constructing a systematic sociological theory. A detailed, comprehensive and critical analysis of selected theoretical works.

598 Thesis (3)

Prerequisites: acceptance as a candidate for the M.A. in Sociology, and approval of the topic. Individual research under supervision, reported in a thesis, and defended in an oral examination conducted by a faculty committee. Must be taken two semesters for a total of six units.

599 Independent Graduate Research (1-3)

Prerequisite: consent of graduate adviser and department. Individual research on either a library or empirical project, with conferences with the adviser as necessary, culminating in one or more papers. May be repeated for credit.

DEPARTMENT OF SPEECH COMMUNICATION

(Communicology)

FACULTY

Lee Granell

Department Chairman

Martin Andersen (Emeritus), Ralph Beckett, Herbert Booth, Louis Cockerham, George Enell, Seth Fessenden, Joyce Flocken, Kaye Good, Suzanne Hagen, Donald Kaplan, Lucy Keele, Emmett Long *, Patrick McDermott, Bonita Miller, Max Nelson, E. Ray Nichols, Glyndon Riley, John Sattler, Philip Schreiner

Coursework in the Department of Speech Communication investigates individual and group communication as a part of the larger process of human interaction. Such investigation analyzes past theories of communication and persuasion as well as contemporary communication practices in business, politics, religion and private life. It examines the essential qualities and varieties of oral language, the physical production of speech, the nature and treatment of communication disorders, and the means used to affect social control and disseminate information.





COURSE PROGRAMS

The major in Speech Communication for the Bachelor of Arts degree requires a total of 36 units, 24 of which must be in 300- and 400-level courses.

Course programs are planned (1) to prepare students who seek a liberal arts emphasis in speech communication as a means for becoming an intellectually independent citizen and consumer, (2) to prepare students who seek to become communication experts in business or government, (3) to prepare students who seek to apply communication skills in the ministry, law, business or other areas in which effective communication is basic, (4) to prepare students who seek either a Standard Teaching Credential or a restricted credential authorizing service as a speech and hearing specialist, (5) to prepare students for hospital, clinic, community center and private practice in speech pathology and audiology.

Major in Speech Communication With Emphasis in Public Address

Lower division requirements:

An advanced course in oral communication: Speech Communication 102 A basic course in logic and evidence: Speech Communication 235 Up to six units of electives selected from Speech Communication 120, 138, 202, 230

Upper division requirements:

A course in group process: Speech Communication 324

A course in phonetics or communication disorders: Speech Communication 341 or 342

A course in persuasion: Speech Communication 334

An advanced course in argument: Speech Communication 335

A course in communication theory: Speech Communication 420

A course in rhetorical history: Speech Communication 430 or 434 Electives in public address, adviser approved, to complete the required 36 units

Major in Speech Communication with Emphasis in Speech Pathology-Audiology

Lower division requirements:

An advanced course in oral communication: Speech Communication 102 Six units of electives selected from Speech Communication 120, 138, 202, 230, 235

Upper division requirements:

A course in persuasion: Speech Comunication 334

A course in phonetics: Speech Communication 341

A course in speech science: Speech Communication 340

A general course in speech correction: Speech Communication 342 An advanced course in speech pathology: Speech Communication 441

A course in audiology: Speech Communication 463

Electives in speech pathology—audiology, adviser-approved, to complete the required 36 units.

STANDARD TEACHING CREDENTIAL PROGRAMS

General Elementary Credential

Lower division requirements:

A minimum of nine units to include Speech Communication 102, 202, 235

Upper division requirements:

Speech Communication 301, 324, 334, 335, 342, 430 or 434 and six to nine units of adviser-approved electives.

General Secondary Credential

Lower division requirements:

Speech Communication 102, 138, 235

396 Speech Communication

Upper division requirements:

Speech Communication 324, 334, 335, 338, 341 or 342, 430 or 434, 442 and six units of adviser-approved electives.

The fifth year is required for either of the above credential programs. Speech Education 442 must be taken by the student seeking the secondary teaching credential before he can be approved for student teaching.

For a community university credential, the student follows the program given for the secondary school credential. In addition, the Master of Arts in Speech Communication is required.

Program Leading to the Restricted Credential Authorizing Service as a Speech and Hearing Specialist

- Bachelor of arts degree—major in speech communication with emphasis in speech pathology and audiology. (See speech communication major section, above)
- A fifth year of specialized preparation (full-time pursuit of upper division and/or graduate coursework)
- Preparation must include a minimum of 65 semester hours of coursework and clinical practice as follows:

Human development and bases for speech, hearing and language, and goals of public education: Speech Communication 340 Speech Science..... 3 Speech Communication 341 Phonetics 3 Speech Communication 403 Speech and Language Development 3 Psychology 361 Developmental Psychology (3) or Education 312 Human Growth and Development (3) 3 Psychology 311 Educational Psychology (3) or Education 411 Psychological Foundations (4) Speech Communication 402 Phonetic Analysis of Speech (3) or Linguistics 406 Descriptive Linguistics (3) or adviser-approved related courses 3 18-19 Disorders of speech, hearing and language primary field: Units Speech Communication 342 Survey of Problems in Communication..... 3 Speech Communication 441 Speech Pathology: Non-Organic 3 Speech Communication 443 Speech Pathology: Organic 3 Speech Communication 451 Diagnostic Methods in Speech and Hearing..... 3 Speech Communication 452 Therapeutic Methods in Speech and Hearing 3 Speech Communication 463 Audiology..... 3 Speech Communication 464 Audiometry 3 Speech Communication 465 Speech Reading and Auditory Training 3 Speech Communication 570-576 Articulation, Voice, Stuttering, Aphasia, etc. (3) repeated for a total of six units..... 6 Related areas: Education 471 Exceptional Children..... 3 Education 452 Principles of Guidance (3) or Education 477 The Educationally Handicapped Child (3) or adviser-approved related courses 3 36 Clinical practice and student teaching in speech and hearing: Speech Communication 458 Clinical Practice 3 Speech Communication 558A Advanced Clinical Practice..... 2 Speech Communication 558B Advanced Clinical Practice 2 Speech Communication 459 Clinical Practice and Student Teaching in Speech Correction and Lip Reading..... 4

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MINOR IN SPEECH COMMUNICATION

The minor for secondary teaching or community university teaching is 22 units as follows: Speech Communication 100 (not to be included as credit for minor), 138, 102, 235, 324, 334, 342, 430 or 434 and 442.

MASTER OF ARTS IN SPEECH COMMUNICATION

This degree, with concentrations in public address or speech pathology and audiology, is a coordinated program of graduate studies to provide incentive for intellectual growth, to contribute to improvement in teaching and professional advancement, and to provide a sound basis for continued graduate study in speech communication. The student is expected to demonstrate a high degree of intellectual and creative competence, to evaluate critically, and to show mastery of his field of concentration.

Prerequisites

In addition to the requirements for admission to the university, admission to the program requires the following:

- Minimum of 24 semester units of upper division studies in speech communication, including adviser-approved background studies of at least 18 semester units either in or directly related to the area of emphasis.
- 2. Grade-point average of 2.5 overall and 3.0 in the upper division work in the major.
- 3. Letters of recommendation.
- 4. Letter from the applicant, stating objectives.

Exceptions to the criteria may be considered on an individual basis. To advance in the program, students must pass an oral qualification examination and demonstrate their effectiveness in graduate studies in the initial courses taken.

Study Plan

The degree study plan will include at least 30 units of adviser-approved graduate studies, 15 units of which must be in 500-level courses. Each program will have at least 15 units in one of the areas of concentration; a core of six units, to include Speech Communication 500, Seminar in Speech Research (taken prior to classification), and Speech Communication 597, Project, Speech Communication 598, Thesis, or Speech Communication 599, Independent Graduate Research; and six units of adviser-approved supporting courses in related fields. A written comprehensive examination is required of all candidates.

For further information, consult the Department of Speech Communication.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

SPEECH COMMUNICATION COURSES

100 Introduction to Oral Communication (3)

Investigation of the role and use of communication in modern society. Emphasis on the issues and occasions which prompt the individual to communicate orally and the ways he may evaluate those issues and prepare discourse so as to participate in meaningful dialogue regarding them. Student presentations required.

102 Advanced Oral Communication (3)

Prerequisite: Speech Communication 100 or consent of instructor. Theory and presentation of public speeches, including an analysis of determinants of comprehension and attitude formation; selection and organization of speech materials, development of delivery skills, and evaluation of message effectiveness. Student presentations required.

120 Meetings and Organizations (3)

The structure of organizations and the use of oral communication in meetings: management of and participation in groups, including use of parlimentary procedure and problem-solving techniques. Student presentations required.

138 Forensics (2)

Investigation and practice in the background, format procedures, and evaluation criteria of the various forensic events. Students must participate in at least two intercollegiate tournaments. May be repeated for credit. (More than 6 hours for each unit of credit)

202 Voice and Diction (3)

Prerequisite: Speech Communication 100. Lecture: Introductory study of voice and speech sound articulation processes and characteristics from the point of view of the speech sciences. Laboratory: Student works toward development of flexibility in his own voice and articulation patterns.

230 Contemporary American Speakers (3)

Prerequisite: Speech Communication 100 or 102. Speeches of prominent figures are examined for motives, ideas, and devices for managing discourse. Content analyzed to discover the extent to which the speeches reinforce or challenge traditional values.

235 Essentials of Argumentation and Debate (3)

Prerequisite: Speech Communication 100 or 102. Investigation of the forms and skills of debate in our society. Use of evidence and case construction are emphasized. Parliamentary, symposium and academic debate are considered.

300 Introduction to Study of Speech (3)

Prerequisite: open only to speech communication majors. Designed to orient majors to the field of speech communication. Special emphasis is on understanding and using the body of professional literature in speech communication.

301 Speech for Teachers (3)

Prerequisite: Speech Communication 100 or graduate standing. Designed to help teachers to use speech and dramatized activities effectively in the classroom. The normal speech development of children is examined, and consideration is given to the identification and handling of speech, hearing and listening problems.

304 Listening: Message Reception and Analysis (3)

Prerequisite: Speech Communication 100 or 102. Examination of listening as a principal form in oral communication, including theory, self-development, and procedures through which competence in reception, analysis, and evaluation of messages can be improved. Attention is given to language as it affects the interpretation of messages and the relationships among individuals.

324 Dynamics of Small Group Discussion (3)

Prerequisite: Speech Communication 100. Study and practice of the principles of group dynamics, interpersonal communication, and the process by which individuals work effectively in the solution of problems, share ideas, and become sensitive to the environment in which they work with others.

333 Communication in Business and Industry (3)

Prerequisite: Speech Communication 100. The nature and scope of internal communications in business and industry, with a view toward management's responsibility in overcoming the barriers to effective communication. Particular emphasis is given to the interview, conference, and briefing sessions.

334 Persuasive Speaking (3)

Prerequisite: Speech Communication 102 or equivalent. Investigation of the problems and techniques of a series of speeches directed toward a predetermined goal: emphasis on progressive use of persuasive materials.

335 Advanced Argumentation (3)

Prerequisite: Speech Communication 235. Argument as applied to advocacy; special attention is given to logic and evidence as related to analysis of significant issues.

338 Intercollegiate Forensics (2)

Directed activity in debate and other forensic events. Participation in intercollegiate competition is required for credit. May be repeated for credit. (More than 6 hours for each unit of credit)

340 Speech Science (3)

Prerequisite: Speech Communication 100. Anatomy and physiology of the speech mechanism with emphasis on respiration, phonation, resonance, articulation, and hearing; the physical and acoustical aspects of the speech process.

341 Introduction to Phonetics (3)

Prerequisite: Speech Communication 100 or graduate standing. The study of the history and theory of speech sounds including the morphological aspect of linguistics; the use of the International Phonetic Alphabet; the various factors influencing articulation and pronunciation. (Same as Theatre 341, Linguistics 341)

342 Survey of Problems in Communication (3)

To acquaint the undergraduate student with the subject matter and vocational opportunities, and principles of speech pathology and audiology. Covered will be the role of school personnel, classes of speech and hearing disorders, incidence, speech development and barriers to the normal acquisition of speech. Observation, lecture, films and demonstrations will be extensively utilized.

402 Phonetic Analysis of Speech (3)

Prerequisite: Speech Communication 341. Intermediate level course in phonetics which introduces the student to narrow transcription and provides intensive analysis of human speech sound production within the framework of physiological analysis. Sounds beyond the range of American English are considered. Prosodic analysis and transcription are stressed. Acoustical analysis of speech is briefly introduced. (Same as Linguistics 402)

403 Speech and Language Development (3)

Prerequisite: Speech Communication 100 or graduate standing. Study of linguistic development and the psychological aspects of oral communication. Meets the language and speech development and disorders requirement for specialized preparation to serve as teachers of exceptional children. (Same as Linguistics 403)

404 General Semantics (3)

Prerequsite: Speech Communication 100 or graduate standing. An examination of the basic principles underlying the influence of language on human action and interaction.

420 Communication Theory (3)

Prerequisites: Speech Communication 324, graduate standing, or consent of instructor. Examination of theoretical models and systems of the communication process as they relate to various types of institutional and interpersonal communication. Emphasis on means by which the process, including discussion forms and methods, may be analyzed or measured.

430 Classical Rhetorical Theory (3)

Prerequisite: Six units of upper division public address courses. Examination of contributions of Greek and Roman rhetorical theorists, and 4th century B.C. to 300 A.D., together with investigation of selected practitioners of the art.

431 European Rhetorical Theory (3)

Prerequisite: Speech Communication 430. Review of European theorists, Cox to Whately, with special emphasis on the educational implications of each approach and the way in which each related to other academic disciplines.

432 Contemporary Rhetorical Theory (3)

Prerequisite: Speech Communication 430. Review of contemporary rhetorical theory with emphasis on the nature of persuasion as an important goal of communication.

433 British Public Address (3)

Prerequisite: six units of upper division public address courses. A rhetorical study of the times, issues, proofs, structure, and style of selected speeches on British political, social, and religious topics.

434 American Public Address (3)

Prerequisite: six units of upper division public address courses. A rhetorical history of the United States from the colonial period to the present. The influence of selected speeches and speakers on the development of American culture.

438 Principles of Rhetorical Criticism (3)

Prerequisite: Speech Communication 430. Principles for describing, interpreting and evaluating speech, developed through analysis of contemporary forensic, deliberative and ceremonial speeches. Consideration of various critical systems. Intensive practice in writing rhetorical criticisms.

441 Speech Pathology: Nonorganic Disorders (3)

Prerequisites: Speech Communication 100 or graduate standing; Speech Communication 341 and 342. Speech pathology with special emphasis on the identification of the most commonly experienced speech problems of a nonorganic nature, such as, articulation, stuttering, voice-delayed development, areas of mental retardation, and emotional problems of children; basic principles of therapy in the clinic and in the classroom; parent conferences and referrals.

443 Speech Pathology: Organic Disorders (3)

Prerequisites: Speech Communication 340, 341, 342. Etiologies, evaluation, and treatment of speech defects of an organic nature (cleft palate, cerebral palsy, aphasia, voice, hearing, dental abnormalities and laryngectomy).

451 Diagnostic Methods in Speech and Hearing (3)

Prerequisites: Speech Communication 340, 341, 342 and 441 or consent of instructor. Provides the student with information about various diagnostic procedures that can be used by him and in consultation with members of related disciplines: psychologist, pediatrician, otologist, orthodontist, neurologist.

452 Therapeutic Procedures in Speech and Hearing (3)

Prerequisites: Speech Communication 340, 341 and 342. Observation and supervised experience in recommended procedures and use of instructional aids with speech-handicapped children, including the preparation and utilization of speech correction and speech improvement materials. (2 hours lecture, 2 hours activity)

453 The Speech and Hearing Clinician as a Counselor (3)

Prerequisites: Speech Communication 342, 463, Education 452 or consent of instructor. Intended to provide background and experience in the guidance of the parents and other family members of children exhibiting communicative disorders. Also designed to help clinician cope with the guidance needs of those experiencing speech, hearing and/or language handicap. To familiarize clinicians with appropriate referral resources.

457 Workshop in Speech Problems—Aphasoid Child (3) (Formerly 557E)

A two-week workshop designed to help meet the needs of speech pathologists, teachers, nurses and other professional personnel who deal with children who exhibit speech disorders of an aphasic nature. Attention directed to etiology, diagnosis and treatment. Specialists from the areas of neurology, psychiatry, psychology, physical medicine, speech pathology and other related fields will discuss with participants data relevant to their professional responsibilities and the aphasoid child.

458 Clinical Practice (3)

Prerequisites: Speech Communication 340, 341, 342, 441 and concurrent enrollment in 451 or 452, and senior or graduate standing and approved application prior to semester of practicum. Practice in the application of diagnostic and therapeutic care to children and adults exhibiting communication disorders.

463 Audiology (3)

Prerequisite: consent of instructor. The nature of auditory functioning, physical and psychological. A detailed consideration of the anatomy of the auditory mechanism, pathological changes and medical treatment. A survey of the rehabilitation facilities for the aurally handicapped; e.g. agencies, hearing aids, auditory training, speech reading, language development, etc.

464 Audiometry (3)

Prerequisite: Speech Communication 342. Equipment, principles, methods and procedures used in conducting school and industrial hearing conservation programs. Attention is given to techniques of audiometric testing and the use of audiograms. Care and use of audiometers, both air-conduction and zone-conduction. Partially fulfills the state requirements for public school audiometrist.

465 Speech Reading and Auditory Training (3)

Prerequisite: Speech Communication 341 or consent of instructor. Historical background of lipreading, methods used in the visual reading of speech, and auditory training techniques used in the rehabilitation of the aurally handicapped.

466 Advanced Audiometry (3)

Prerequisite: Speech Communication 464. Advanced audiometric procedures involving the following: speech audiometry (threshold and discrimination), malingering tests (Lombard, Stenger, etc.), Bekesy type audiometry, alternate binaural loudness balance, short increment sensitivity index, tone decay, threshold by identification of pictures, discrimination of identification of pictures plus additional activities of auditory measurement and evaluation. Other aspects to be considered are the physics of sound, effects of hearing impairment, prevention of occupational hearing loss, and hearing loss in children.

480 Rhetoric of Racial Dissent (3)

Prerequisite: sophomore standing. Examination of past and present efforts to voice dissent on racial matters. Selected messages of dissent are studied within the social and intellectual context of the day, with special concern for the strategies chosen to respond to that context and the reaction of society to those strategies.

490 Seminar: Speech and Hearing Service in the Schools (2)

Prerequisites: concurrent registration in Speech Communication 459 and consent of instructor. Problems and challenges unique to the student clinician in the organization and management of the speech and hearing program in the school. Course includes study of the clinician's role, planning, scheduling, case finding, treatment program reporting and other responsibilities.

499 Independent Study (1-3)

Open to advanced students in speech communication with the consent of department chairman. May be repeated for credit.

500 Seminar in Speech Research (3)

Prerequisites: graduate standing, Speech Communication 300 or equivalent. Examination of research design and methods used in historical, descriptive and experimental research in speech communication.

504 Seminar: General Semantics (3)

Prerequisite: Speech Communication 404. An in-depth study, analysis, interpretation and criticism of some of the major concepts of general semantics as a theoretical construct of the influence of language on human action and interaction and the relationship of these concepts to other fields of knowledge. (Same as Linguistics 504)

520 Seminar in Group Communication (3)

Prerequisites: Speech Communication 324 and 420. Critical analysis of significant literature and current research regarding intra- and intergroup communication.

525 Seminar in Organizational Communication (3)

Prerequisite: consent of instructor. Critical examination of significant literature and current research regarding communication systems and practices within business and industry.

535 Seminar in Advocacy (3)

Prerequisite: Speech Communication 335. Critical analysis of significant texts and periodic literature relating to argumentation and advocatory discourse.

536 Seminar in Rhetorical Theory (3)

Prerequisite: Speech Communication 430. Intensive analysis of selected rhetorical treatises chosen to represent complementary or contrasting systems of rhetoric.

538 Seminar in Rhetorical Criticism (3)

Prerequisite: Speech Communication 438. Principles for analyzing existing rhetorical critical methodologies. An investigation of the "2new criticism." Methods and practice in developing a critical methodology. Intensive analysis of new forms of rhetorical criticism.

539 Special Topics in Public Address (3)

Prerequisite: consent of instructor. A critical analysis or intensive investigation of a topic selected by the students and/or instructor. May be repeated for credit.

540 Seminar in Experimental Phonetics (3)

Prerequisites: Speech Communication 341 or its equivalent and 402, or consent of instructor. Graduate level course in phonetics which introduces student to experimental phonetics, the electromechanical analysis of speech, and laboratory techniques in physiological phonetics. Special selected problems in the anatomy and physiology of speech as related to problems of physiological and acoustic analysis. (Same as Linguistics 540)

542 Neurological Foundations of Speech Communication (3)

Prerequisites: Speech Communication 340 and 443. A systematic survey of mechanisms of the central and peripheral nervous systems underlying normal speech and language behavior.

543 Seminar: Major Problems in Speech Pathology and Audiology (3)

Selected problems in speech pathology and audiology approached through an investigation of the literature and clinical research.

558A,B,C Advanced Clinical Practice (2,2,2)

Prerequisites: Speech Communication 458 and approved application submitted prior to semester of practicum. Advanced clinical practice with children and adults, having communication problems encountered in professional setting such as the university clinic, public schools, hospitals, crippled children clinics, etc. Students will work with clients with disorders of voice, deafness, aphasia, dysarthria, stuttering. May be repeated for credit.

560A Seminar in Aphasia: Background (3)

Prerequisite: consent of instructor. The areas studied will be the history of aphasia from 1850–1915 (primarily academic and structural); 1917–1941 (primarily psychological and anatomical); 1941 –present (eclectic). The physiology (anatomy and neurology) involved in the communicative processes and classification and theories regarding aphasia.

560B Seminar in Aphasia: Diagnosis (3)

Prerequisite: consent of instructor. Study of the etiology of aphasia, dysarthria, apraxia. Diagnosis of communication problems arising from brain-damage. Guest lecturers in the fields of aphasia, dysarthria, apraxia, stroke research, internal medicine.

560C Seminar in Aphasia: Therapy (3)

Prerequisite: consent of instructor. Eclectic study of the approaches to therapy with brain damaged adults who have sustained a communication deficit. Introduction to the interdisciplinary involvement required to work effectively with the adult in this category. Guest lecturers will include representatives from orthopedics, counseling, rehabilitation, social services, physical therapy, occupational therapy, vocational rehabilitation.

563 Seminar in Audiology (3)

Prerequisites: Speech Communication 463, 464, 466, or consent of instructor. Investigation into a particular area or areas of audiology with selected problems. Emphasis upon research and contributions within the framework of the seminar.

570 Seminar in Communication Disorders: Cleft Palate (3) (Formerly 557A)

Prerequisites: Speech Communication 441 and 443. Selected problems in cleft palate approached through an investigation of the literature and experimental and clinical research.

571 Seminar in Communication Disorders: Stuttering (3) (Formerly 557B)

Prerequisites: Speech Communication 441 and 443. Selected problems in stuttering approached through an investigation of the literature and experimental and clinical research.

572 Seminar in Communication Disorders: Cerebral Palsy (3) (Formerly 557D)

Prerequisites: Speech Communication 441 and 443. Selected problems in cerebral palsy approached through an investigation of the literature and experimental and clinical research.

573 Seminar in Communication Disorders: Voice (3) (Formerly 557F)

Prerequisites: Speech Communication 441 and 443. Selected problems in voice approached through an investigation of the literature and experimental and clinical research.

574 Seminar in Communication Disorders; Articulation (3) (Formerly 557G)

Prerequisites: Speech Communication 441 and 443. Selected problems in articulation approached through an investigation of the literature and experimental and clinical research.

575 Seminar in Communication Disorders: Mental Retardation (3) (Formerly 557H)

Prerequisites: Speech Communication 441 and 443. Selected problems in mental retardation approached through an investigation of the literature and experimental and clinical research.

576 Seminar in Communication Disorders: Advanced Diagnosis (3) (Formerly 5571)

Prerequisite: Speech Communication 441 and 443. Selected problems in advanced diagnosis approached through an investigation of the literature and experimental and clinical research.

597A,B,C Project (2,2,2)

The conduct and reporting of an approved project.

598A,B,C Thesis (2,2,2)

Prerequisite: Speech Communication 500. The selection, investigation, and written presentation of a selected problem in the field of speech.

599 Independent Graduate Research (1-3)

Prerequisites: graduate standing and consent of chairman. Open to graduate students with permission of chairman of department. May be repeated for credit.

SPEECH EDUCATION COURSES

442 Teaching Speech in the Secondary School (2)

Prerequisites: Education 411, Education 340, admission to teacher education, senior standing or consent of instructor. The student who has not had teaching experience must register concurrently in Education 449. See page 199 under Secondary Education for description of standard teaching credential program. Objectives, methods, and materials for teaching speech in secondary schools. Required, before student teaching, of students presenting majors in speech for the standard teaching credential.

459 Clinical Practice and Student Teaching in Speech Correction and Lip Reading (4) Prerequisites: Concurrent registration in Speech Communication 490 and application approved prior to semester of practicum, 165 clock hours of clinical practice and graduate status. Experiences include working in small groups and in individual therapy sessions with speech and hearing handicapped children enrolled in regular school classes, participation in parent counseling conferences and conferences with school personnel including administrators, classroom teachers, and nurses. Planning of curriculum materials to integrate speech and hearing therapy with regular classroom instruction will be stressed. This meets the directed teaching requirements for the

credential to teach speech and hearing handicapped in remedial classes.

749 Student Teaching in Speech in the Secondary School and Seminar (6)

See page 208 for description and prerequisites.

TECHNOLOGICAL STUDIES PROGRAM

FACULTY

Barry E. Gerber Acting Director

The technological studies program was established to conduct special programs of studies and to provide course offerings which cut across related disciplines. Activities of the technological studies program are interdisciplinary and include a reference center and curriculum in technological studies as well as special activities such as the construction of the technological studies geodesic dome.

This program brings together courses from several disciplines on the nature and impacts of technology and methods of analysis. The general focus of the program is on study of interdisciplinary methods and techniques for analyzing technological change; technology transfer and applications; and analysis of the impacts of technological change on society.

The program provides an area for special study within recognized major fields of studies. Students may take separate courses or develop an individualized program of studies based on courses, directed readings and research participation. Wherever possible courses are conducted as seminars and bring together lectureres from relevant disciplines included in the sciences and humanities. Through independent studies students are encouraged to pursue topics or problems of special interest beyond the scope of regular courses under the supervision of a faculty adviser. The technological studies program is directly coordinated with the activities of departments and other programs of the university.

The Man and Technology Program

Man and Technology, a program developed jointly between the technological studies program and the School of Engineering, directed to the study of man in the man-made world, the relationship between technology and the human condition. The program (1) enables engineering students to meet social science and general education requirements of the School of Engineering by engaging in studies closely akin to their major studies; (2) provides a general course of study for students of other technologically oriented disciplines of the college; (3) makes available to nonengineering students a set of general education courses in the analysis and solution of engineering problems; and (4) provides a meeting ground for faculty and students concentrating in different fields of study through participation in interdisciplinary studies of technology.

TECHNOLOGICAL STUDIES COURSES

100 Introduction to Technological Studies (3)

An examination, in survey form, of questions about the development of human technologies. Examination of the various theories and methodologies which can be applied to the study of the role of technology in the process of cultural and social development.

110A Man-made World (3) (Same as Engineering 110A) 110B Man-made World (3) (Same as Engineering 110B)

111A Laboratory: Man-made World (1)

(Same as Engineering 111A)

111B Laboratory: Man-made World (1)

(Same as Engineering 111B)

211 Technology for Man (3)

An assessment of the special requirements of human beings in relation to technological development. Explores, in various ways, the natural and cultural human needs which a technologist might consider when he creates a piece of technology.

300 Culture and Technology (3)

A survey of the impacts of technology on culture in general and of culture in general on technology.

410 Society and Technology (3) (Formerly 201)

The analysis of the relationship between technological development and various aspects of social reality.

420 Theories of Technological Change (3) (Formerly 301)

An examination of normative and fact-oriented theories concerning technological development.

430 Ideology and Technology (3) (Formerly 464)

An examination of the development and meaning of contemporary technological society: technocracy, technostructure, cybernetics and cyberculture, and associated changes in ideology.

499 Independent Study (1-3)

Through independent study students can pursue topics or problems of special interest beyond the scope of regular courses under the supervision of a faculty adviser. The work is of a research or creative nature, and normally culminates in a paper, project, comprehensive examination or performance. Before registering, the student must get his topic approved by the professer who will be supervising independent study. Independent study courses may be repeated. A student wishing to enroll in more than six units of independent study in any due semester must have the approval of his major adviser and of the chairman of the department(s) in which the independent study is to be conducted.

(Sponsored by the Technological Studies Program)

Economics

370 Economics of Research and Development and Technological Change (3) Engineering

100 Introduction to Analysis (3)

101 Introduction to Engineering (1)

417 Engineering Economy (2)

423 Engineering Probability and Statistics (3)

History

491 Proseminar in Special Historical Topics (3)

Topic: The American Response to Technological Development. Examination of the historical consequences of technological change and development for American society including the reception of technological images, symbols, and myths into the culture; the adaptation of institutions to imperative needs for technological innovation; and the changing status of technologists in American society with primary focus on the late 19th and 20th centuries.

Management

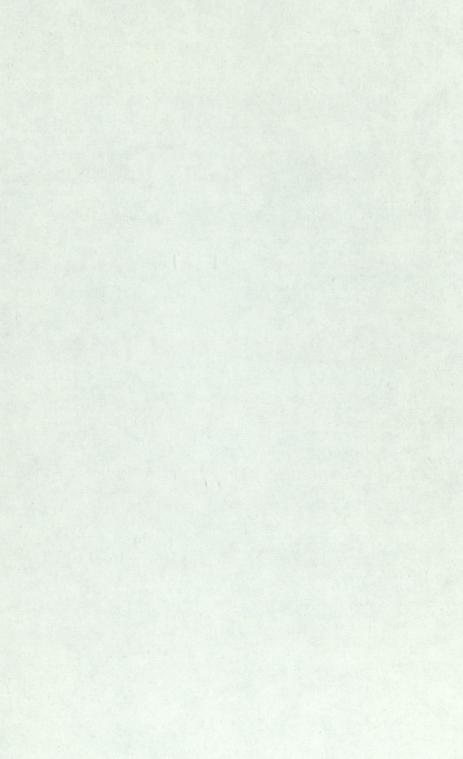
545 Research and Development Project Management (3)

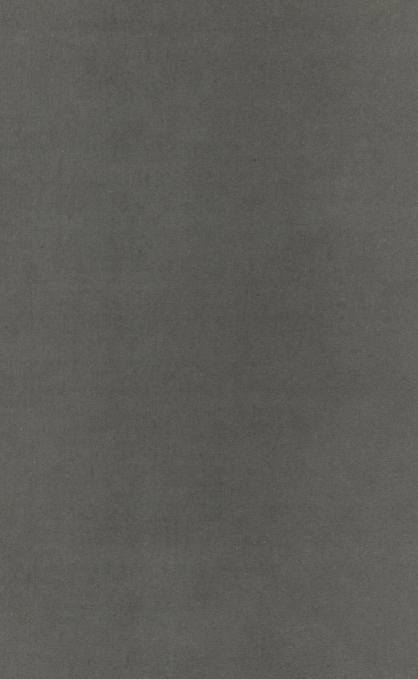
Science Education

461 Development of Science and Technology (3)

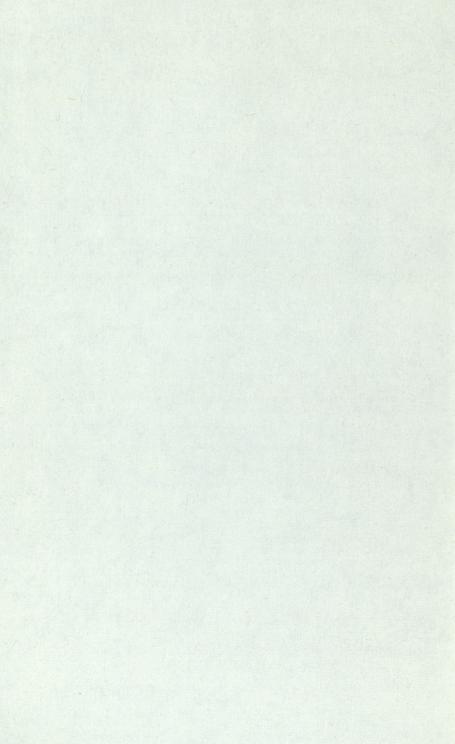
Science and Mathematics Education

470 Evolution of Scientific Ideas (3)





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DIVISION OF LIBRARY SCIENCE

Director: Mrs. Doris H. Banks

FACULTY

Chester Gough, Michael Sadoski

PART-TIME

Harriett Covey, Shirley Dale, David Davies, Herbert Hoffman, John Kountz, Kathryn Tucker

MASTER OF SCIENCE IN LIBRARY SCIENCE

The Division of Library Science provides graduate education for librarianship with a primary focus on the basic principles of library service. The program encompasses a coordinated plan of graduate studies, which emphasizes the foundations of library science together with a specialization such as school, public, academic and special librarianship. These studies provide background for employment as librarian as well as serve for incentive for further intellectual growth and as preparation for advanced graduate work toward the doctoral degree in library science.

Prerequisites

To be admitted to the program students must: (1) meet the general prerequisites for graduate work of the university; (2) have a bachelor's degree with an academic major or equivalent; (3) have completed one year's employment in a library with responsibilities satisfactory to the advisers or successfully complete the upper division course, Library Science 400, Introduction fo Bibliographic Research, or its equivalent; (4) show satisfactory performance on the aptitude test of the Graduate Record Examination; (5) provide letters of recommendation from two qualified persons; and (6) satisfactorily complete an interview.

Study Plan

The Master of Science in Library Science requires a minimum of 24 units of approved graduate work in library science plus six units of approved work for graduate credit in an area of concentrated study and either completion and acceptance by the faculty of the Division of Library Science of a written thesis or successful performance in a comprehensive examination.

Six units of required study shall be seminars on library topics, such as Indexing and Abstracting, Theories of Bibliographic Control, Information Systems, and six units shall be electives in an area of concentration.

Prior to completion of the degree program the student will be required to demonstrate reading capability in one foreign language, either by evidence of two years' college or university work in the language or by passing a reading facility examination. The student will also be expected to demonstrate proficiency in basic computer programming and applications, either by evidence of completion of a course such as Quantitative Methods 265, Computer Programming and Applications, or Quantitative Methods 289, Computer Science for the Social Sciences, or by passing an examination.

Each student will develop an individual program of studies in consultation with an adviser from the Division of Library Science.

See also "The Program of Master's Degrees," page 71, and the Graduate Bulletin.

School Librarianship Specialization

The courses for the credential program and the foundation courses for the M. S. L. S. are Library Science 500, 501, 502, 503, 504 and 505. The addition of six units of electives such as Comparative Literature 314, The Oral Tradition in Literature, and English 433, Children's Literature, and 90 hours of supervised fieldwork in the school library would meet the requirements for specialized preparation applicable to the standard teaching credentials. This will authorize a teacher to serve as a school librarian. The minimum coursework required for the specialized preparation is 24 units and the minimum for the master's degree with a specialization in school librarianship is 30 units.

LIBRARY SCIENCE COURSES

314 The Oral Tradition in Literature (3)

(Same as Comparative Literature 314)

400 Introduction to Bibliographic Research (3)

A study of the methods of performing literature searches for advanced research problems including bibliographic form and documentation with special emphasis on exploitation of the information in library card catalogs, trade bibliographies, index and abstract journals and other reference literature, and a study of abstracts, annotations, and critical reviewing.

500 Principles of Librarianship (3)

Consideration of libraries in contemporary society. History of libraries, development of objectives of library service, identification and definition of user communities and their needs, survey of professional associations, interrelationships within library organization.

501 Library Collection Development (3)

The principles of a library acquisitions program developed from an examination of methods of bibliographic control. Publishers and publishing and other factors of the book trade and their influence on the development of an efficient order department.

502 Organization and Operation of Libraries (3)

An introduction to administrative theories and principles and their implications and applications to managerial activities in all kinds of libraries.

503 Organization of Information for Retrieval (3)

Theory and principles of classification, indexing, subject headings and cataloging and a survey of systems for storing and retrieving information. (2 hours lecture, 2 hours activity)

504 Theories of Readers' Services (3)

A study of the history, theory, and principles of reference service and information retrieval, of national and trade bibliographical tools, and of specialized reference tools; the identification of requesters' needs, and the analysis of research techniques in special subject areas. (2 hours lecture, 2 hours activity)

505 Research in Librarianship (3)

Prerequisite: three of the 500-level required courses. The scientific method and social sciences research methodology applied to library and information problems, focusing on library research and its accomplishments and evaluations of current research activities.

520 Seminar on Library Operations (3)

Prerequisite: Library Science 500 or consent of instructor. Analytical techniques drawn from systems analysis and industrial engineering applied to technical processing, circulation control, acquisitions and the development of library service models.

521 Seminar on Information Systems (3)

Prerequisite: Library Science 500 or consent of instructor. Examination of present and potential information systems in a variety of subjects as selected by members of the seminar. Business and corporate, scientific and governmental information techniques are examined in depth. Designs of local, national and international services are developed in theoretical models according to measured needs.

522 Seminar on Current Problems in Technical Processing (3)

Prerequisite: Library Science 503 or consent of instructor. Implications of current trends in automation and cooperative systems viewed in the light of changing needs for library service and for information.

523 Seminar on Indexing and Abstracting (3)

Prerequisite: Library Science 503 or consent of instructor. Investigation of the theoretical and functional aspects of the approaches to the sources of information by individual research efforts in various fields. Current practices of commercial, governmental and society sponsored information media.

524 Seminar on Theories of Bibliographic Control (3)

Prerequisites: Library Science 503 and 504 or consent of instructor. Studies in the theoretical bases of systems for the organization and retrieval of information in all forms.

525 Seminar on Information and Instructional Materials (3)

Prerequisites: Library Science 500 and 501 or consent of instructor. Focuses on organizing and implementing media programs of wide application. Special attention to problems, organization of materials, physical environment, federal support programs and modern technology. Includes field trips to outstanding media centers in the area.





526 Seminar on Selected Topics (3)

Prerequisite: graduate standing or consent of instructor. Discussion of contemporary issues in library service such as libraries of the future, library service for the disadvantaged, intellectual freedom. Topics chosen will be described and announced to Library Science majors and in local library associations and institutions. May be repeated.

531 Data Processing for Library Applications (3)

Prerequisite: graduate standing. The devices and methods of the technology of data processing applied to particular library functions with a management system approach underlined throughout. The management and planning or automation projects is stressed.

532 History of Libraries and Information Media (3

Prerequisite: graduate standing. Historical survey of the formation of libraries, from the beginnings in the archival collections of ancient Mesopotamia. The varieties of books, records and documents which have constituted library collections, and the varying importance of libraries in succeeding ages.

533 Non-Book Information Handling (3)

Prerequisites: Library Science 503 and 504 or consent of instructor. The selection, cataloging, retrieval and use of the many types of documents, films, recordings and other forms of printed and produced information carriers in the various library service entities. Both alphabetic and coded information sources are considered. Students have the opportunity to emphasize individual interests and needs for specialization.

536 Scientific and Technical Information (3)

Observation and evaluation of current techniques in special libraries for obtaining, announcing and distributing printed, near-print and non-printed materials. Development of a model system for improved information services.

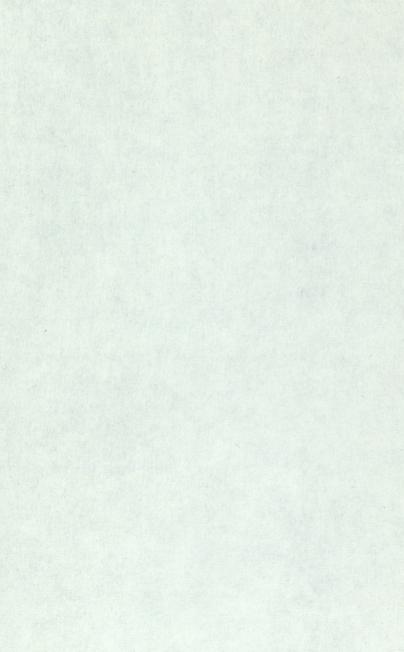
537 Selection and Use of Materials for Children and Young Adults (3)

The examination of selection aids used to evaluate print and non-print materials, the construction of collection objectives and selection policies, and the development of programs and services for young people.

538 History of Books and Printing (3)

Prerequisite: graduate standing. An historical survey of the various materials, devices and machines used for written communication. Some note is taken of picture writing and mnemonic devices used by the Indians of North America. In Europe and Asia the use of clay tablets in the Mesopotamian area is taken as a starting point. The wax tablets, leather and papyrus books and metal plates used in the Near East and the Classical world are considered, and the production of manuscripts in medieval Europe. The development of printing in China and Europe is traced up to and including phototypesetting and photo-offset printing.





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Shirley Avery, Sue Baker, Phyllis Baldwin, Katherine Colladay, Susan Hilgers, Valarie McCormick, Cheryl Moser, Nancy Peake, William Pinkney, Carol Sage, Judy Sewell, Pennie Sleeper, Linda Sorenson, April Smith, Robert Throneberry, Jody Tyson, Elyse Ulrich, Joan Vail.

FULLERTON SCHOOL DISTRICT

Marjorie Bell, Moline Behrens, Helen Cogan, Donna Crary, Charles DePoy, Alice Dial, Mildred Glenn, Lois Horton, Katherine Johnson, Shirley Johnson, Vivian Wake, Freda Wallace, Ramona Waterman, Alice Yelle, Phyllis Ziemer.

FULLERTON UNION HIGH SCHOOL DISTRICT

Lalia Anderson, Matt Asta, Thomas Barnes, Barbara Bent, Melvin Bennett, Marshall Blaufarb, Claire Blohm, Warren Bowen, James Bremer, William Burns, Ronald Calvis, Patricia Carpenter, Margaret Chaconas, David Coerper, Loretta Coller, John Costello, Susan Courtney, Robb Davis, Ronald DeCrona, Carolyn Doran, Virginia Dottl, Ethel Drapkin, Mildred Ekedal, Salley Foster, James Fournell, Juana Galleges, Shirley Gatling, Patricia Gentilin, Louise Gillette, Gertrude Guyette, Dale Hallberg, Jerry Hamilton, James Havsken, Thomas Hewitson, Catheryn Hoehn, Lois Horton, Peggy Hugenberger, William Kann, Thaddeus Kopacki, Jean Klinghoffer, Anita Larsen, Donald Larsen, Robert Linn, Colores Lunde, Thomas Moore, Ruth Morris, James Petty, Fred Pilling, Shirley Porter, Johannes Prins, Glenn Robb, Lue Rhymes, Donald Roesner, Bruce Sayers, Betty Sealing, John Settmire, Arla Smith, Dave Skelly, Sylvia Sorrells, Douglas Stanton, Kenneth Stichter, Liselotte Thom, Rhya Turovsky, Kathleen Van Clief, Cornelius Vander Bilt, Eugene Vitamanti, Virginia Wallace, Doyle Wiley, Daniel Williams, Janet Wright, James Young.

GARDEN GROVE UNIFIED SCHOOL DISTRICT

Marvin Bates, Ernestine Baxter, Eleanor Beatty, Jeanne Bivins, Eleanor Burke, Jane Burnison, Howard Calvert, Marilyn Coffin, Barbara Crouch, Janice Daigle, Delma Doerr, Jules Domond, Judy Finch, Mary Greene, Bertha Jennings, DeAnn Jennings, Susan Konrath, Clara Laljer, Shirley Latta, April Newby, Karen Nishkian, Juanita Noble, Brenda Paschall, Earl Philpot, Ken Rank, Judith Raphael, Sharan Reuter, Judy Rotar, Janine Schiller, Carol Schnitger, Pam Sisel, Arlene Skain, Leroy Skvarla, Louella Smith, Nita Stepp, Irene Stevens, Carol Story, Anne Tatsuta, Janice Teske, Christine Torino, Jean Wager, Joan Watral, Tom Wendt, Jim Wicker.

HACIENDA-LA PUENTE UNIFIED SCHOOL DISTRICT

Kaye Baer, Vivian Ewart, Catherine Follett, Leroy Jensen, Joan Jewett, Birdie Meador, Sue Morgan, Joan Noe, Alyce Perry, Helen Reddy, Eunice Rex, Marie Thomas.

HUNTINGTON BEACH UNION HIGH SCHOOL DISTRICT

Henry Leichfried, Simon Zellers.

JURUPA JOINT UNIFIED SCHOOL DISTRICT Clem Gary.

LA HABRA CITY SCHOOL DISTRICT

Gary Berglund, Gary Berry, Shirley Carley, Larry Codner, Willam Dickenson, Diane House, Doris Lindberg, Marilyn Phemister, Claudia Poppen, Bonnie Rosell, Emily Schwilke, Denise Stuart, Fern Waits, Joyce Wheeler, Sheila Wilson, Katherine Williams, Don Worrell.

LOWELL JOINT SCHOOL DISTRICT

Marie Adishian, Mary Anderson, Ruth Bishop, Ruth Gread, Lillie Jones, Joy Kramer, Janet Lewis, Kay McNeill, Carol Peri, Jeanine Pletcher, Shirley Ranney, Shirley Webster.

NEWPORT-MESA UNIFIED SCHOOL DISTRICT

Jane Caldwell, Ellen Caricof, Kenneth Cave.

NORTH ORANGE COUNTY COMMUNITY COLLEGE DISTRICT

Steven Abe, Ella Beaver, Colin Campbell, Richard Datyck, Janet Emote, Jack Kirchenbaum, Kathryn Randolph, Amy Stump.

NORWALK-LA MIRADA UNIFIED SCHOOL DISTRICT

Janet Bucknum, Lillian Csupak, Mary Ellen Dick, Henry Frese, George Greenlee, Betsy Haaker, Aage Knudsen, Darwyn Lumley, Richard Maerty, Jean McHatton, William McMaster, Louisa Page, Mona Sutterfield, Lila Woodward.

ORANGE UNIFIED SCHOOL DISTRICT

Violet Balmes, Shirley Beckleman, Norm Berg, Arsinine Black, Mary Bunger, Jack Burke, Edward Castle, Gwen Chapman, Loal Cole, Tim Cole, Gerry Conkey, Pat Cummings, Josephine Delgado, Carol DeHart, Max Dodson, Les Driver, Tillie Eklund, Lynn Emanuel, Percy Fauskin, Lucile Gunne, Marian Hallquist, Rose Hamilton, Brenda Hansen, Carol Harris, Travis Haskin, Antoinette Hoetzl, Glenn Huckenbill, Alfreida Hull, Robert Joy, Tom Judson, Catherine Lee, Maurice Lyerla, James McMillen, Roy Meade, Robert Moline, Kent Moore, Donna Mullen, Jean Murry, Ben Myers, Dom Myers, Bill Prescott, Patrick Reagan, James Reed, Linda Ridenour, Jack Rowe, William Schertle, Jim Schultz, Beth Shirokawa, Judy Simpson, June Solow, Rebecca Summers, Norman Syler, Pam Van Slyke, Kathy Urchota, Paul Weed, Jean Wickham, Betty Wilmer, John Zuber.

OCEAN VIEW SCHOOL DISTRICT

Jeralynn DeFrank, Lynn Fox, Lynn Hawkins, Billie Holt, Marilyn Koeller, Jeanne Lomont, Claire Matthews, Jean Nordby, Vi Redding, Mary Joe Stephens.

PLACENTIA UNIFIED SCHOOL DISTRICT

Geraldine Adamson, Carolyn Barnes, Marge Boelmann, Larry Bottom, Helen Brown, Marvin Briggs, Don Brittingham, Mavis Campbell, Margaret Cannon, Marianne Casino, Frank Chavez, Larry Clem, Jo Ann Clift, Pauline Conner, Barbara Cooper, Richard Cira, Carolyn Crantz, Nina Dobyns, James Drummond, Miriam Dutcher, Barbara Ellenbroek, Richard Enright, Delos Eyer, Lois Funke, Pat Gleason, Richard Hunter, Mickey Kissinger, Betty Knights, Barbara Kruger, Colleen Lasswell, Michael Ledbetter, Marilyn Lutz, Rose Magnusson, Anne Martin, Marilyn McClanaham, William Mosley, Patricia Mullins, Marilyn Petrick, Ray Pharr, Linda Robb, Marilyn Sampica, Marilyn Schoolcraft, Gregory Schook, Anna Spencer, Hepp Steiwand, Caroll Strook, Ronald Swing, Ann Taylor, Nancy Trumpfeller, Kenneth Unsworth, Marilyn Vayssie, Richard Vouga, Winifred Walker, Jean Warner, Jacqueline Woerner, Jack Woy, William Wright, Carol Zukoski.

ROWLAND SCHOOL DISTRICT

Annabeth Bean, Betty Cristiano, Shirley Hall, Christine Hartman, Marilyn LeBard, James Lucas, Dorothy Lunsford, Adam McLeod, Patricia McKirchy, John Miller, Rexa Moffett, Sarah Saxon, Doris Short, Kai Soholt, William Spruston, Ann Stutsman, Letta Wilborn.

SAN JOAQUIN SCHOOL DISTRICT

Phyllis Arnoff, Nancy Bjornestad, Shelley Brooks, Lewis Brown, Jane Courtney, Rosie Drew, Irene Fenwick, Jo Anne Geiler, Carol Hauer, Julie Herten, Pricilla Iacono, Rae Kalklosch, Sharon Kelly, Francis Lenore, Barbara Lipscomb, Sue McDonnell, Betty McKenzie, Betty Monahan, Erna Muzzio, Ann Peterson, Donna Phebus, Donna Pollard, Margaret Pratley, Carol Reigle, Ester Sanderson, Teresa Santoya, Rita Sutton, John Tennant, Shirley Trutner, Leah Weber, Carol Whitcher, Jim Wilson, Nancy Wight.

SANTA ANA SCHOOL DISTRICT

Wylie Carlyle, Robert Dittoe, D. Evinger, Don Haffner, Neal Meshander, Jan Palmer.

444 Teachers Cooperating

SAVANNA SCHOOL DISTRICT

Dorothy Hastings, Dave Hathcock, Carol Koski, Barbara Litwick, Elaine Martin, Marian Thompson.

TUSTIN SCHOOL DISTRICT

Mary Adair, Betty Anderson, Eleanor Anderson, Gerald Aust, John Bering, Katherine Brazil, Mary Chacon, Patricia Dunn, Dorothy Forkey, Kit Glass, Ruth Greene, Dorothy Hoyt, Julia Hume, Mary Lindsay, Sharon Lohman, Joselyn McAdams, David Mittrick, Barbara Scheifele, Georgia Shortall, Vivien Stork, Vicki Threewit, Karen Van Spanje, Leola Wadell, Nancy Wolfe, Robert Wilkinson, Joy Wright, Julie Wright.

TUSTIN UNION HIGH SCHOOL DISTRICT

Steve Frogue, Robert Nichols, Robert Patterson, Margaret Ramondetti, Enola Sleeper, Ken Turknette, Claude Wiseman.

WALNUT VALLEY UNIFIED SCHOOL DISTRICT
Donn Morris.

WHITTIER UNION HIGH SCHOOL DISTRICT Joe Davis, Victor Lopez, Raynold Stepner.

WEST COVINA UNIFIED SCHOOL DISTRICT Jack O'Cain.

FACULTY AND ADMINISTRATION 1971-72

(Year in parentheses indicates date of appointment as a full-time member of the faculty)

ABBOTT, ROBERT D. (1970), Assistant Professor of Psychology

B.A., California Western University; M.S., Ph.D., University of Washington

ADAMS, PHILLIP A. (1963), Professor of Biology

B.S., University of California, Berkeley; M.A., Ph.D., Harvard University

ADAMS, RAYMOND V. (1960), Professor of Physics

B.S., Kansas State University; Ph.D., California Institute of Technology

ALAMSHAH, WILLIAM H. (1960), Professor of Philosophy

M.A., Claremont Graduate School; Ph.D., University of Southern California

ALEXANDER, JAMES P. (1960), Professor of Communications

B.A., M.S., University of Southern California; Ed.D., University of California, Los Angeles

ALLEN, HOLLIS P. (1960), Professor of Education, Emeritus

B.A., Pomona University: M.A., Ed.D., Stanford University; LL.D., Claremont Graduate School

ALLEN, TERI A. (1970), Assistant Professor of Theatre

B.A., M.A., University of Iowa

ALNE, ARTHUR E. (1969), Medical Officer

B.A., M.D., University of Oregon

AMES, DENNIS B. (1960), Professor of Mathematics B.A., M.A., Bishop's University; Ph.D., Yale University

ANDERSEN, LINDA R. (1970), Assistant Professor of French

B.A., Kalamazoo College; M.A., Ph.D., University of California, Los Angeles

ANDERSEN, MARTIN P. (1965), Professor of Speech Communication, *Emeritus* B.A., M.A., Ph.D., University of Wisconsin

ARANA, OSWALDO (1965), Professor of Spanish

B.A., Texas Christian University; M.A., Ph.D., University of Colorado

ARMSTRONG, CHERYL L. (1972), Lecturer in Afro-Ethnic Studies

B.A., Fisk University

AUSTIN, DON D. (1963), Associate Professor of English

B.A., M.A., University of Redlands; Ph.D., University of Washington

BADEN, NANCY T. (1969), Assistant Professor of Spanish and Portuguese B.A., M.A., University of California, Los Angeles

BAILEY, DAVID T. (1969), Assistant Professor of Chemistry B.A., University of Colorado; Ph.D., Iowa State University

BAKER, GEORGE T., III (1968), Assistant Professor of History

M.A., California State University, Fullerton; B.A., Ph.D., Duke University

BAKKEN, GORDON M. (1969), Assistant Professor of History

B.S., M.S., Ph.D., University of Wisconsin

BALDWIN, SIDNEY (1967), Professor of Political Science

B.A., Wesleyan University; M.P.A., Ph.D., Syracuse University

BANKS, DORIS H. (1967), Director and Professor of Library Science

B.S., New York State Teachers College; M.S.L.S., Syracuse University; M.P.A., University of Southern California

BARISH, NATALIE (1966), Professor of Biology

A.B., Goucher College; M.A., Indiana University; Ph.D., Ohio State University

BARNETT, DONALD J. (1970), Assistant Professor of Accounting

A.B., M.B.A., University of Michigan; J.D., Harvard University Law School

BARRETT, JEAN A. (1963), Associate Professor of Physical Education

B.S., Cortland State Teachers College; Ed.M., Ed.D., University of Buffalo

BATES, MARILYN M. (1966), Associate Professor of Education

B.A., M.A., California State University, Long Beach; Ph.D., University of Southern California

‡ BAUR, JAMES A. (1967), Assistant Professor of Chemistry

B.S., Elmhurst College; Ph.D., University of Kansas

[‡] Resigned February 1972

446 Faculty and Administration

BECK, WARREN A. (1961), Professor of History

B.A., M.A., Wayne University; Ph.D., Ohio State University

BECKER, ERNEST A. (1959), Director of Placement Services and Professor of Philosophy
B.A., Amherst College; B.D., Hartford Theological Seminary; M.A., Ed.D., University of Southern California

BECKETT, RALPH L., SR. (1970), Assistant Professor of Speech Communication

A.B., M.A., Ph.D., University of Southern California

BECKMAN, WALTER F. (1971), Professor of Education

B.A., Northern Illinois University; M.A., Northwestern University; Ph.D., Claremont Graduate School

BEDELL, JOHN W. (1969), Assistant Professor of Sociology and Vice Chairman, Sociology Department A.B., Franklin and Marshall College; M.A., Ph.D., Case Western Reserve University

BELL, CHARLES G. (1964), Associate Professor of Political Science and Chairman, Political Science Department B.A., Pomona University; M.A., Ph.D., University of Southern California

BELL, TONY (1968), Assistant Professor of Sociology B.A., M.A., University of California, Santa Barbara

BELL, WILLIAM E. (1969), Professor of Marketing B.A., M.B.A., D.B.A., Michigan State University

BELLOLI, ROBERT C. (1968), Assistant Professor of Chemistry

B.S., St. Louis University; Ph.D., University of California, Berkeley
BELLON, RICHARD D. (1971), Lecturer in Anthropology and Afro-Ethnic Studies

B.A., California State University, Fullerton
BELLOT, LELAND J. (1964), Associate Professor of History

B.A., Lamar State College; M.A., Rice Institute; Ph.D., University of Texas

BENGTSON, KURT L. (1967), Associate Professor of Physics

B.S., M.A., Wayne State University; Ph.D., University of California, Riverside

BENNETT, JAMES C. (1968), Associate Professor of Education

A.B., California State University, San Jose; M.A., Stanford University; Ed.D., University of Southern California # BENSON, RUSSELL V. (1965), Professor of Mathematics

B.E.E., Cornell University; M.A., Ph.D., University of Southern California

BERFIELD, B. DAVID (1971), Assistant Professor of Music

B.M., Oberlin Conservatory of Music; M.M., D.M.A., University of Southern California

BERG, DENNIS F. (1970), Lecturer in Sociology

B.A., M.A., California State University, Fullerton
BERTALOT, ROBERT P. E. (1969), Assistant Professor of French

B.A., M.A., University of California, Los Angeles

BIGELOW, RALPH EMERSON (1966), Dean of Admissions and Records; and Associate Professor B.Mus., M.Mus., University of Rochester; Ph.D., University of Southern California

BLANCHARD, MILTON C. (1961), Building Coordinator B.S., M.Ed., Tufts University

BLEND, HARVEY (1963), Professor of Physics

B.S., University of Texas; M.S., Ph.D., University of California, Los Angeles

BLOOM, GARY S. (1971), Assistant Professor of Quantitative Methods

A.B., Oberlin College; M.S., University of Arizona BOARINO, GERALD L. (1965), Associate Professor of Spanish

B.A., M.A., Ph.D., University of California, Berkeley

BOOTH, HERBERT W. (1967), Assistant Professor of Speech

B.A., M.A., California State University, Los Angeles; Ph.D., University of Southern California

BOSTON, ROSEMARY (1969), Assistant Professor of English

B.A., Baldwin-Wallace College; A.M., University of Pennsylvania; Ph.D., University of Washington

BOYNTON, MARYANNA C. (1970), Assistant Professor of Economics

B.A., University of Texas; M.A., Ph.D., University of California, Riverside

BRADSHAW, L. JACK (1965), Professor of Biology

B.A., Ph.D., Stanford University

1 BRAGG, MARY JANE (1966), Librarian III

B.A., Occidental College; M.A., Columbia University; M.L.S., University of California, Los Angeles

BRATTSTROM, BAYARD H. (1960), Professor of Zoology

B.S., California State University, San Diego; M.A., Ph.D., University of California, Los Angeles

BREESE, LAUREN W. (1965), Associate Professor of History

B.A., Pomona University; M.A., Ph.D., University of California, Los Angeles

¹ On leave December 2, 1971 to May 15, 1972

[#] On leave spring 1972

BRIGHT, DONALD B. (1967), Associate Professor of Biology and Chairman, Biological Science Department A.B., M.S., Ph.D., University of Southern California

BRIL, PATRICIA L. (1971), Librarian II

B.A., University of California, Irvine; M.L.S., University of Southern California

BROCKMANN, LOUIS O. (1963), Professor of Education

B.A., M.A., Ph.D., University of Wisconsin

BROWN, GERALD G., II (1968), Lecturer in Quantitative Methods

B.A., M.B.A., California State University, Fullerton

BROWN, GILES T. (1960), Dean of Graduate Studies and Professor of History B.A., California State University, San Diego; M.A., University of California, Berkeley; Ph.D., Claremont Graduate School

* BROWN, MICHAEL E. (1967), Assistant Professor of Political Science B.A., California State University, Long Beach; Ph.D., University of Southern California

BROWN, ROBERT G. (1971), Lecturer in Geography B.A., M.A., University of California, Los Angeles

BRUGALETTA, JOHN J. (1970), Assistant Professor of English B.A., M.A., Arizona State University; Ph.D., University of Missouri

BRYDEN, JOHN H. (1961), Professor of Chemistry

B.S., College of Idaho; M.S., California Institute of Technology; Ph.D., University of California, Los Angeles

BUCHMAN, EDWIN O. (1968), Associate Professor of Mathematics

B.S., California Institute of Technology; Ph.D., University of California, Los Angeles

BUCK, CHARLES W. (1964), Acting Dean of Students

B.A., Occidental College; M.A., University of Oregon; Ph.D., Columbia University

BUCKLEY, CHRISTOPHER P. (1971), Assistant Professor of Earth Science

B.S., California State University, Long Beach; M.S., California State University, San Jose; Ph.D., Rice University BUCUZZO, JOSEPH J. (1970), Assistant Professor of Mathematics

B.S., M.A., University of Massachusetts; Ph.D., University of Notre Dame

BURK, JACK H. (1971), Assistant Professor of Biology

B.S., Fort Lewis College; Ph.D., New Mexico State University

BURKE, MAX W. (1960), Director of Placement Services and Associate Professor of Education, *Emeritus* B.A., University of Iowa; B.D., Colgate-Rochester Divinity School

BUSKIRK, RICHARD H. (1970), Professor of Marketing and Acting Chairman, Marketing Department B.S., M.B.A., Indiana University; D.B.A., University of Washington

‡ CAINE, JOHN E. (1968), Professor of Physical Education and Director of Athletics; and Acting Chairman, Athletics Department

B.S., M.S., University of California, Los Angeles; Ed.D., Colorado State College

CALHOUN, FENTON E. (1970), Assistant Professor of Communications

B.A., Michigan State University; M.A., Ph.D., Wayne State University CALVERT, GENE P. (1970), Assistant Professor of Sociology

B.A., California Western University; M.A., Ph.D., Case Western Reserve University

CAPUNE, W. GARRETT (1969), Executive Assistant to the President and Assistant Professor of Sociology B.A., M.A., D. Criminology, University of California, Berkeley

CARPENTER, DWIGHT M. (1969), Associate Professor of Political Science B.A., M.A., University of Wichita; Ph.D., University of Illinois

CARR, EDWIN R. (1960), Professor of Education and Economics

B.A., Jamestown College; M.A., Columbia University; Ph.D., University of Minnesota

CARTLEDGE, SAMUEL J. (1966), Associate Professor of French A.B., King College; Ph.D., Yale University

CASTELLANOS, GLORIA G. (1970), Assistant Professor of Mathematics Education

Bachelor's Degree, Pre-University Institute, Camaguey, Cuba; Doctor's Degree, University of Havana; M.A., California State University, Fullerton

CATANZARO, JAMES L. (1970), Associate Dean of Students and Director of Student Activities B.A., Barrington College; B.D., Talbot Theological Seminary; Ph.D., Claremont Graduate School

CAYTON, JOHN MICHAEL (1968), Assistant Professor of Economics B.A., Stanford University; Ph.D., The University of Texas

^{*} On leave 1971-72

[‡] Resigned June 1972

448 Faculty and Administration

CHADWICK, CAROLE S. (1967), Assistant Professor of Music

B.A., University of Delaware; M.A., Columbia University Teachers College

CHARLTON, F. ANDREW (1965), Associate Professor of Music B.M.Ed., Pepperdine College; M.A., California State University, Los Angeles

CHEN, WILLIAM P. (1960), Librarian V

B.A., National Wu-Han University, China; M.S. in L.S., M.A., Ph.D., University of Illinois

CHIANG, GEORGE C. (1967), Associate Professor of Engineering and Chairman, Civil Engineering/Engineering Mechanics Faculty

B.S., National Taiwan University; M.S., University of Southern California; Ph.D., Stanford University

CHIANG, VERONICA T. (1968), Librarian II

B.A., Tamkang College of Letters and Science; M.S.L.S., University of Southern California

CHING, ALVIN K. (1967), Assistant Professor of Art

B.A., California State University, Long Beach; M.F.A., Cranbrook Academy of Art

* CHIOU, FLORA Y. C. (1967), Librarian II

B.A., National Taiwan University; M.S.L.S., University of Southern California

CHOW, WEN MOU (1969), Professor of Quantitative Methods

B.S., Chiao-Tung University; Sc.D., Massachusetts Institute of Technology

CHRISTENSEN, LAWRENCE L. (1972), Assistant Professor of Anthropology B.A., M.A., University of California, Los Angeles

CHU, KWANG-WEN (1970), Assistant Professor of Economics B.A., National Taiwan University; M.A., University of Minnesota

CLAPP, MICHAEL H. (1969), Assistant Professor of Mathematics

A.B., Occidental College; M.A., M.S., Ph.D., University of Washington COCKERHAM, LOUIS W. (1968), Assistant Professor of Speech

B.S., M.S., University of Oregon; Ph.D., University of Illinois

COHN, GEORGE I. (1968), Professor of Engineering

B.S.E.E., California Institute of Technology; M.S., Ph.D., Illinois Institute of Technology

COLEMAN, JACK W. (1968), Dean, School of Business Administration and Economics; and Professor of Accounting

B.S., Kansas University; M.B.A., University of Michigan; D.BA., Indiana University

COLGAN, FRED R. (1965), Associate Professor of Management B.S., M.S., Ph.D., University of Southern California

COLLEA, FRANCIS P. (1970), Assistant Professor of Science Education

B.Engr., State University of New York; M.S., Ph.D., Syracuse University COLMAN, RONALD W. (1964), Associate Professor of Quantitative Methods B.A., University of California, Los Angeles

CONANT, JAMES C. (1971), Associate Professor of Management A.B., Whittier College; Ph.D., University of Southern California

CONDON, MARY GARDNER (1969), Placement Counselor B.S., Iowa State University

COOPER, JOHN D. (1970), Assistant Professor of Earth Science B.S., University of Michigan; M.A., Ph.D., The University of Texas

COOPERMAN, EDWARD L. (1967), Associate Professor of Physics B.S., Lehigh University; Ph.D., The Pennsylvania State University

COPP, CAROL M. (1965), Associate Professor of Sociology

B.A., M.A., University of Michigan; Ph.D., University of Colorado

COPPOLINO, IDA S. (1960), Acting Dean, School of Education and Professor of Education B.S., University of Utah; M.A., New York University; Ed.D., University of California, Los Angeles

CORMAN, EUGENE J. (1966), Associate Professor of Accounting B.Sc., M.B.A., University of Santa Clara; C.P.A.; D.B.A., University of Southern California

CORPORON, EUGENE A. (1971), Lecturer in Music B.A., California State University, Long Beach

‡ COURY, RICHARD P. (1969), Lecturer in Physical Education and Football Coach B.S., Notre Dame University

COX, MIRIAM S. (1967), Associate Professor of English B.S., Utah State University; M.S., University of Idaho

¹ On leave January 1972 to January 1973

^{*} On leave 1971-72

[‡] Resigned February 1972

CRONQUIST, JOHN (1967), Assistant Professor of Philosophy

A.B., Duke University; A.M., Harvard University; Ph.D., Stanford University

CROWLEY, RONALD J. (1965), Associate Professor of Physics B.S., M.A., Ph.D., University of Southern California

† CROY, HAZEL M. (1960), Professor of Education B.A., M.A., University of Redlands; Ed.D., University of California, Los Angeles

CUMMING, ROBERT H. (1970); Lecturer in Art

B.F.A., Massachusetts College of Art; M.F.A., University of Illinois

CUMMINGS, SHERWOOD P. (1963), Professor of English B.S., University of Illinois; M.A., Ph.D., University of Wisconsin

* CURRAN, DARRYL I. (1967), Assistant Professor of Art B.A., M.A., University of California, Los Angeles

CURRY, TIMOTHY I. (1970), Assistant Professor of Sociology B.A., University of Redlands; M.A., University of Washington

CURTIS, DWIGHT W., IR. (1965), Associate Professor of Psychology

B.A., College of the Pacific; M.A., California State University, Sacramento; Ph.D., University of Oregon

CUSICK, JAMES W. (1961), Professor of Education and Coordinator of Secondary Education B.S., Montana State College; M.A., Washington State University; Ph.D., University of Minnesota

DAANE, KENNETH E. (1969), Associate Professor of Finance

LL.B., Ph.D., J.D., University of Colorado

DAVENPORT, CALVIN A. (1969), Associate Professor of Microbiology B.S., Virginia State College; M.S., Ph.D., Michigan State University

DAVIS, BARBARA E. (1960), Librarian V and Chairman, Reader Services Department B.S., Carnegie Institute of Technology; B.Mus., University of Wisconsin; M.L.S., Carnegie Library School

de FRANCE, DOROTHEA (1967), Assistant Professor of English B.A., M.A., California State University, Los Angeles

de GRAAF, LAWRENCE B. (1959), Professor of History and Director, Master of Arts Degree in Social Science Program

B.A., Occidental College; M.A., Ph.D., University of California, Los Angeles

DENNO, RAYMOND E. (1961), Professor of Education and Consultant in Audiovisual Communications B.A., University of California, Santa Barbara; M.S., University of Southern California; Ed.D., University of California, Los Angeles

de RIOS, MARLENE D. (1969), Assistant Professor of Anthropology B.A., Queens College; M.A., New York University; Ph.D., University of California, Riverside

DIAZ, MODESTO M. (1970), Assistant Professor of Spanish B.A., Colby College; M.A., Ph.D., University of Illinois

DIEB, RONALD K. (1969), Assistant Professor of Theatre

B.A., M.A., Texas Christian University; Ph.D., University of Denver

DIETZ, NAOMI G. (1960), Professor of Art

B.S., Whitworth College; M.A., Teachers College, Columbia University

DIPPEL, GENE H. (1970), Director of Computer Center

B.B.A., The University of Texas; M.S., Texas A. and M. University

DITTMAN, ROGER R. (1964), Associate Professor of Physics

B.A., University of California, Santa Barbara; M.S., University of Delaware; Ph.D., University of Southern

DOANE, KENNETH R. (1960), Director of Institutional Research and Professor of Education B.S., Wisconsin State College, La Crosse; M.S., Ph.D., University of Wisconsin

DOLP, FRANZ (1968), Associate Professor of Economics B.S., Yale University; Ph.D., University of California, Berkeley

DONDIS, ERNEST H. (1966), Associate Professor of Psychology and Chairman, Psychology Department B.A., M.A., California State University, Long Beach; Ph.D., University of California, Berkeley

DONOGHUE, MILDRED R. (1962), Professor of Education

B.A., University of Michigan; M.A., University of Detroit; Ed.D., University of California, Los Angeles

DORER, FRED H. (1967), Associate Professor of Chemistry

B.S., California State University, Long Beach; Ph.D., University of Washington

[†] On leave fall 1971

^{*} On leave 1971-72

450 Faculty and Administration

DUBIN, STUART B. (1970), Assistant Professor of Physics B.A., Yale College; Ph.D., Massachusetts Institute of Technology

DUERR, EDWIN (1964), Professor of Theatre

B.A., University of California, Berkeley; M.A., Cornell University

DURON, CARLOS E. (1971), Instructor in Chicano Studies

B.A., California State University, Fullerton

DWORAK, ROBERT J. (1970), Assistant Professor of Political Science B.S., M.P.A., D.P.A., University of Southern California

EARICK, ARTHUR D. (1960), Professor of Geography and Director, Urban Studies Program B.A., Indiana University; M.A., Ph.D., University of Michigan

EBERSOLE, PETER D. (1967), Associate Professor of Psychology

A.B., Swarthmore College; Ph.D., University of California, Los Angeles

EDMONDSON, BEN C. (1970), Associate Professor of Quantitative Methods B.S., Purdue University; M.B.A., Ph.D., Case Western Reserve University

EGBERT, RUSSELL J. (1968), Associate Professor of Mathematics

B.A., University of California, Riverside; M.S., Ph.D., University of Arizona

EHMANN, GERHARD E. (1959), Dean of Continuing Education and Professor of Education B.A., Occidental College; M.A., Ed.D., University of California, Los Angeles

EISEN, MARVIN B. (1971), Assistant Professor of Psychology

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ELENBAAS, JACK D. (1969), Assistant Professor of History B.A., Hope College; M.A., Ph.D., Wayne State University

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B.A., University of Southern California; M.B.A., Ph.D., University of California, Los Angeles

LOLLICH, LaNOR L. (1968), Assistant Professor of Theatre

B.A., University of California, Santa Barbara; M.A., University of Oregon

LONG, EMMETT T. (1959), Associate Dean of Admissions and Records; Director, Relations with Schools and Colleges; and Professor of Speech Communication

B.A., Pepperdine College; B.A., M.A., University of California, Berkeley; Ed.D., University of Southern California

LYNN, ARTHUR W. (1962), Counselor, Counseling Center

B.A., University of Redlands; M.A., Claremont Graduate School; Ed.D., University of Southern California

LYNN, JOANNE L. (1966), Instructor in English

B.A., Pomona College; M.A., California State University, Fullerton

LYON, WILLIAM H. (1970), Associate Professor of Interdisciplinary and Special Studies

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MAAS, GARY L. (1970), Assistant Professor of Music

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^{*} On leave 1971-72

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MALONEY, NEIL J. (1969), Associate Professor of Earth Science B.A., California State University, Fresno; M.S., Ph.D., Oregon State University

MARCH, LESTER W. (1969), Assistant Professor of Education

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MARLEY, GERALD C. (1967), Associate Professor of Mathematics

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MASON, JOHN B. (1960), Professor of Political Science B.A., Butler University; M.A., Ph.D., University of Wisconsin

MASTROIANNI, GEORGE A. (1968), Associate Professor of Communications B.A., The Pennsylvania State University; M.S., Ph.D., Syracuse University

MATHEWS, FRANCES H. (1966), Associate Professor of Chemistry B.S., M.S., Montana State University; Ph.D., University of Minnesota

MATHEWS, JOHN H. (1969), Assistant Professor of Mathematics

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MATHIEU, G. BORDING (1960), Professor of French and German
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MATSON, DONALD D. (1967), Assistant Professor of Physical Education and Director of College Recreation Programs

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MAXWELL, J. WILLIAM (1960), Professor of Communications and Chairman, Communications Department B.A., University of Southern California; M.S., Columbia University; Ph.D., University of Iowa

MAYER, HARVEY E. (1968), Assistant Professor of Russian and German B.A., Stanford University; M.A., Ph.D., Harvard University

McCARTHY, MILES D. (1959), Vice President, Academic Affairs and Professor of Biology B.S., West Chester State College; Ph.D., University of Pennsylvania

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McCLOUD, LELAND W. (1962), Professor of Management and Quantitative Methods B.S., M.S., North Texas University; Ph.D., The University of Texas

McCOMB, STUART F. (1959), Executive Dean and Professor of Education, *Emeritus*

B.A., Arizona State University; M.S., Ed.D., University of Southern California; LL.D., Upper Iowa University McCULLOUGH, EDITH L. (1966), Associate Professor of Education

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McFARLAND, RICHARD A. (1968), Associate Professor of Psychology A.B., University of California, Berkeley; Ph.D., University of California, Los Angeles

McFIE, MARSHALL N., II (1971), Lecturer in Quantitative Methods B.A., M.B.A., California State University, Fullerton

McGARRY, EUGENE L. (1962), Associate Vice President, Academic Administration and Professor of Education B.A., Cornell College; M.A., Northwestern University; Ph.D., State University of Iowa

McKEE, KENT E. (1964), Associate Professor of Business Law

B.B.A., University of Toledo; M.B.A., Michigan State University; LL.B., University of Michigan; C.P.A.

McKUSICK, ROSA A. (1967), Librarian III

B.A., Whittier College; M.A., Columbia University; Certificate in Librarianship, University of California, Berkeley

McLAREN, ROBERT B. (1967), Assistant Professor of Education

A.B., Park College; B.D., McCormick Theological Seminary; M.A., University of Houston; Ph.D., University of Southern California

McNELLY, WILLIS E. (1961), Professor of English

B.A., Central YMCA College; M.A., Loyola University (Chicago); Ph.D., Northwestern University

McWILLIAMS, KENNETH L. (1968), Assistant Professor of Zoology

B.S., Colorado State University; M.S., New Mexico State University; Ph.D., Indiana University

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[#] On leave spring 1972

² Reassigned 1971–72

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MEIER, ROBERT A. (1969), Professor of Accounting and Chairman, Accounting Department B.S., De Paul University; M.B.A., Ph.D., University of Chicago; C.P.A.

MEND, MICHAEL R. (1965), Associate Professor of Sociology B.A., M.A., Ph.D., University of California, Los Angeles

MENDOZA, SAMUEL M. (1969), Counselor, Educational Opportunity Programs Special Engineering, Cerritos College, and Fullerton Junior College

MERRIFIELD, DORIS D. (1965), Associate Professor of German M.A., Ph.D., The University of Texas

MEYER, HENRY H. (1971), Lecturer in Political Science B.A., Claremont Men's College; M.P.A., University of Southern California

MICHAELS, ROBERT J. (1968), Assistant Professor of Economics
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MICHALOPOULOS, DEMETRIOS A. (1971), Lecturer in Quantitative Methods B.S., M.S., North Carolina State University; Ph.D., University of Southern California

MICHALSKY, DONAL R. (1960), Professor of Music B.Mus., M. Mus., D.M.A., University of Southern California

MILLER, BONITA A. (1970), Instructor in Speech Communication B.A., M.A., University of California, Los Angeles

MILLER, FREDERIC H. (1969), Assistant Professor of History B.A., M.A., University of Minnesota

MILLER, RONALD R. (1967), Associate Professor of Mathematics B.S., M.S., Texas Technological College; Ph.D., University of Arizona

MILLER, RUSSELL H. (1968), Assistant Professor of English B.A., The Pennsylvania State University; M.A., Ph.D., University of Maryland

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MITCHELL, GLENN R. (1969), Accounting Officer B.S., California State University, Long Beach

MITCHELL, PHILLIP S. (1968), Associate Professor of Quantitative Methods
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MLYNARYK, PETER M. (1967), Assistant Professor of Finance B.S., Massachusetts Institute of Technology; M.B.A., D.B.A., University of Southern California

MOFFET, J. BRYAN (1968), Associate Professor of Education A.B., M.A., Miami University; Ed.D., University of California, Los Angeles

MONTANA, ANDREW F. (1963), Professor of Chemistry B.S., Seattle Pacific College; Ph.D., University of Washington

** MOON, DALLAS A. (1970), Lecturer in Physical Education
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MOORE, BILLIE J. (1969), Assistant Professor of Physical Education B.A., Washburn University; M.S., Southern Illinois University

* MORKRE, MORRIS E. (1967), Associate Professor of Economics B.A., University of Redlands; M.A., Ph.D., Northwestern University

MORRIS, THOMAS D. (1964), Director of Financial Aid B.A., M.Ed., Gonzaga University

MORTON, HELEN L. (1963), Staff Physician B.A., University of Nevada, Reno; M.D., Medical College of Virginia

MORTON, HOWARD K. (1965), Testing Program Supervisor B.A., M.A., University of California, Los Angeles

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460 Faculty and Administration

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NAMASAKA, BOAZ N. (1971), Lecturer in Afro-Ethnic Studies B.A., Westmont College; M.A., Ph.D., Claremont Graduate School

NARDI, FRANCES C. (1970), Counselor, Counseling Center

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NEILSON, KEITH T. (1969), Associate Professor of English A.B., Princeton University; M.A., Ph.D., University of Chicago

NELSON, CALVIN C. (1967), Professor of Education and Chairman, Behavioral Sciences in Education Department B.A., University of California, Berkeley; M.S., University of Miami; M.A., Ph.D., University of Oregon

NELSON, MAX (1965), Professor of Speech Communication

B.A., University of Akron; M.A., Ph.D., University of Michigan

NICHOLS, E. RAY, JR. (1966), Professor of Speech Communication and Vice Chairman, Speech Communication Department

B.A., M.A., Cornell University; Ph.D., University of Southern California

NICHOLS, JOHN R. (1965), Associate Professor of Finance

B.A., Baldwin-Wallace College; M.A., Ph.D., Ohio State University

NIMS, IRENE D. (1969), Assistant Professor of English

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NUDD, T. ROGER (1972), Dean of Students

B.S., M.S., University of Oregon; Ed.D., University of California, Los Angeles

NYCUM, RUTH A. (1967), Librarian II

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OBLER, PAUL C. (1962), Professor of English; Chairman, Interdisciplinary and Special Studies Division; and Director Interdisciplinary Center Program

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O'CONNOR, DENNIS J. (1971), Professor of Finance

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** O'HARA, JOSEPH P. (1970), Lecturer in Physical Education
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* OLSEN, JOHN W. (1961), Professor of Art

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OLSEN, ROBERT M. (1970), Associate Professor of Marketing

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OMALEV, ALEXANDER (1960), Professor of Physical Education and Coach of Basketball B.A., M.S., University of Southern California

ONORATO, MICHAEL P. (1965), Associate Professor of History

B.S., St. Peter's College; M.A., Ph.D., Georgetown University ORGANISTA, RICARDO R. (1970), Lecturer in Ethnic Studies

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OSEN, DEBORAH K. (1969), Assistant Professor of Education

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OTHMER, PETER W. (1970), Assistant Professor of Engineering

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OVERBECK, WAYNE E. (1968), Assistant Professor of Communications B.A., Whittier College, M.S., Ed.D., University of California, Los Angeles

PAGNI, DAVID L. (1969), Assistant Professor of Mathematics Education

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PARTIN, ROBERT E. (1966), Professor of Art

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PASTOR, PAUL J. (1960), Chairman, Division of Health Education, Physical Education, Recreation and Athletics; and Professor of Physical Education

B.S., M.Ed., Springfield College; Ed.D., University of Oregon

PAUL, M. JANE (1968), Assistant Professor of Music

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PEASE, DONALD E. D. (1969), Associate Dean, School of Education and Associate Professor of Education B.S., Central Michigan University; M.A., Ed.D., Colorado State College

* PEÑA, ERVIE (1963), Assistant Professor of Spanish
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PENNINGTON, GLENN W. (1971), Medical Officer

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PERKINS, DAVID (1969), Assistant Professor of Psychology
B.A., M.A., Ph.D., University of New Mexico

PERRY, SHARON K. (1969), Librarian II

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PETAK, WILLIAM J. (1970), Associate Professor of Political Science

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PETALAS, URANIA C. (1965), Associate Professor of English

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PETTYJOHN, LEONARD F. (1968), Assistant Professor of Geography
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PICKERING, JERRY V. (1968), Associate Professor of Theatre

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PICKERSGILL, GARY M. (1970), Assistant Professor of Economics

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PICKERSGILL, JOYCE S. (1966), Associate Professor of Economics

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PIERCE, SAM (1970), Assistant Professor of Mathematics

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PINE, FORREST S. (1968), Lecturer in Management

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PIVAR, DAVID J. (1965), Associate Professor of History and Chairman, American Studies Department B.S., Millersville State College; M.A., Temple University; Ph.D., University of Pennsylvania

POLLAK, PAULINA JUNE (1961), Professor of English
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PONTNEY, JACK A. (1961), Professor of Economics

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POORKAJ, HOUSHANG (1965), Associate Professor of Sociology B.A., M.A., Ph.D., University of Southern California

PORTER, ALBERT W. (1971), Professor of Art

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POVLOVICH, CHARLES A. (1960), Professor of History

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POWLISON, FRASER (1967), Associate Professor of Education

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RAMSAY, ORRINGTON C. (1960), Professor of English
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REEVES, WILLIAM J. (1970), Director of Judicial Affairs and Special Projects B.A., Goddard College; M.A., Claremont Graduate School

† REITH, GERTRUDE M. (1961), Professor of Geography B.A., M.A., University of Washington; Ph.D., Clark University

RENCE, ROBERT I. (1970), Associate Professor of Theatre

B.S., New Jersey State Teachers College, Trenton; B.T.A., College of Theatre Arts, Pasadena Playhouse; M.A., Occidental College; Ph.D., University of Minnesota

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RIETVELD, RONALD D. (1969), Assistant Professor of History

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RILEY, GLYNDON D. (1966), Associate Professor of Speech Communication
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RILEY, MICHAEL M. (1970), Assistant Professor of English
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RIZZA, JAMES J. (1968), Associate Professor of Engineering
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ROCK, GLORIA D. (1969), Assistant Professor of Philosophy

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RODET, PAUL H. (1968), Procurement and Support Services Officer

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ROEBUCK, FRANK H. (1967), Assistant Professor of Finance

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ROGAL, RICHARD A. (1971), Assistant Professor of Education
B.A., Brandeis University; M.A., Columbia University; Ph.D., University of Southern California

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RUSSELL, EDWARD L. (1970), Staff Physician

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RUSSELL, JACK (1966), Counselor, Counseling Center

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RUSSELL, J. MICHAEL (1969), Assistant Professor of Philosophy B.A., M.A., Ph.D., University of California, Santa Barbara

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SAMUELSON, GERALD D. (1962), Professor of Art and Chairman, Art Department B.A., M.A., University of California, Los Angeles

SANDBERG, ROLLIN T. (1964), Associate Professor of Mathematics B.A., Alfred University; M.A., University of Buffalo; Ph.D., University of Arizona

SANDOVAL, ROBERT E. (1971), Executive Assistant to the Vice President, Administration and Community Relations; Coordinator of Community Relations; and Director, Conferences and Institutes

B.A., California State University, Fullerton SANFORD, DAVID T. (1971), Assistant Professor of Art

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SANTUCCI, JAMES A. (1970), Assistant Professor of Religious Studies and Linguistics B.A., Iona College; M.A., University of Hawaii; Ph.D., Australian National University

SATTLER, JOHN C. (1970), Assistant Professor of Speech Communication B.A., M.A., University of Michigan; Ph.D., Northwestern University

SAWICKI, JOSEPH W. (1969), Assistant Professor of English B.A., M.A., University of Chicago

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SCHEEL, VIRGINIA L. (1967), Assistant Professor of Physical Education
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SCHEINBERG, SEYMOUR (1969), Assistant Professor of History and Vice Chairman, History Department B.A., California State University, Los Angeles; M.A., Ph.D., Claremont Graduate School

SCHICK, GEORGE B. P. (1970), Lecturer in Education Ph.B., M.A., Ph.D., University of Chicago

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SCOLES, GRETCHEN S. (1969), Placement Counselor A.B., University of Michigan

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SCHWARZ, JOHN M. (1969), Assistant Professor of English B.S., M.A., University of Montana; Ph.D., University of California, Los Angeles

SCHWEITZER, DON A. (1969), Associate Professor of Psychology B.A., University of California, Riverside; M.A., Ph.D., University of Nevada, Reno

SCOTT, DANIEL E. (1971), Associate Professor of Music B.M., M.M., Indiana University; D.M., Northwestern University

SCOTT, MILDRED H. (1965), Director of Admissions B.A., University of California, Berkeley

† SCOTT, SARI E. (1963), Associate Professor of English
B.A., Carnegie Institute of Technology; M.Litt., University of Pittsburgh; Ph.D., University of Iowa

SCOUFOS, ALICE L. (1966), Associate Professor of English
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SEARS, DONALD A. (1967), Professor of English B.A., Bowdoin College; M.A., Ph.D., Harvard University

SEE, RICHARD E. (1966), Associate Professor of Anthropology B.A., M.A., Ph.D., University of California, Los Angeles

SELLER, HOWARD J. (1965), Associate Professor of English and Vice Chairman, English Department B.A., University of California, Los Angeles; M.A., Ph.D., University of Southern California

SERROS, ROBERT (1969), Associate Professor of Chicano Studies and Chairman, Chicano Studies Department B.A., Pepperdine College; M.A., Ph.D., University of Southern California

SHAMES, PRISCILLA (1969), Assistant Professor of English
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SHAPIRO, MARK H. (1970), Assistant Professor of Physics A.B., University of California, Berkeley; M.S., Ph.D., University of Pennsylvania

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SHARMA, RADHA MOHAN (1966), Associate Professor of Finance B.S., M.B.A., Florida State University; Ph.D., University of California, Los Angeles

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SHARP, JAMES B. (1969), Associate Vice President for Facility Planning and Operations B.A., California State University, Los Angeles

SHARPE, ALEX W. (1970), Associate Director, Educational Opportunity Programs California State University, Fullerton

SHAUL, DONALD R. (1964), Professor of Management and Chairman, Management Department B.S., United States Naval Academy; M.B.A., Ph.D., University of California, Los Angeles

SHIELDS, L. DONALD (1963), President and Professor of Chemistry
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SHIPPEE, JOHN S. (1969), Assistant Professor of Political Science
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SHULTZ, HARRIS S. (1970), Assistant Professor of Mathematics B.A., Cornell University; Ph.D., Purdue University

SHULTZ, WILLIAM R. (1969), Coordinator, Audiovisual Services (1969), Coo

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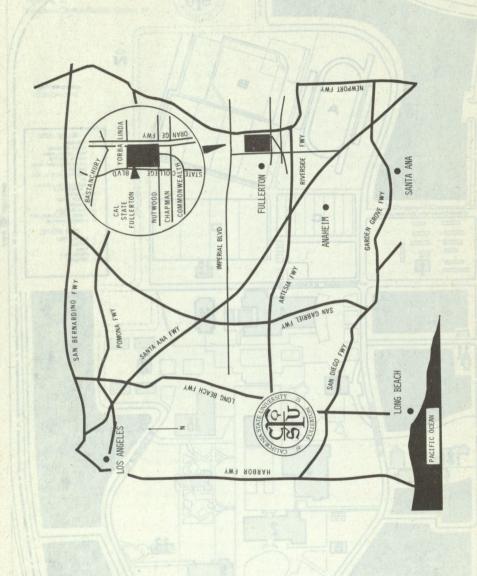
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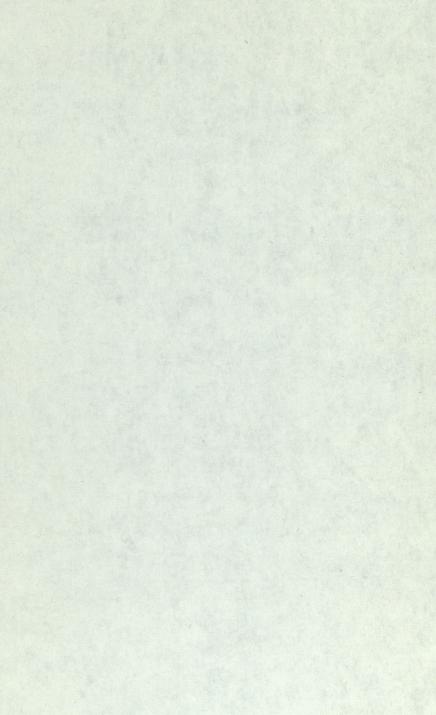
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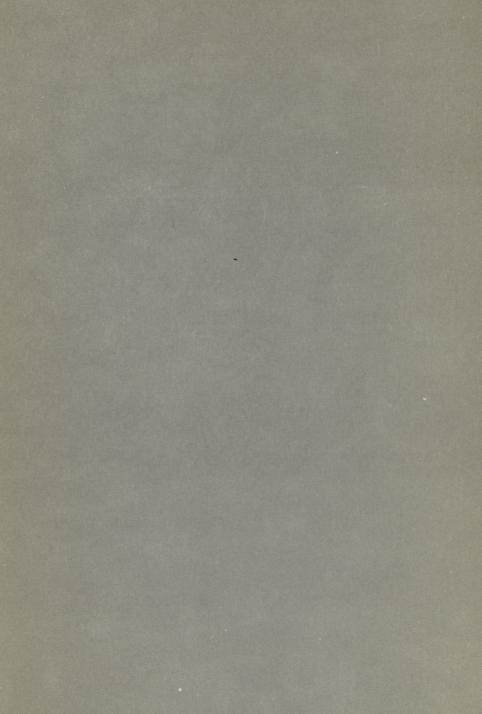
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